DOCUMENT RESUME

ED 074 751 EM 010 937

AUTHOR	Hopkinson, Peter
TITLE	The Role of Film in Development.
INSTITUTION	United Nations Educational, Scientific, and Cultural Organization, Paris (France). Dept. of Mass Communication.
PUB DATE	71
NOTE	54p.; Reports and Papers on Mass Communication Number 64
AVAILABLE FROM	UNIPUB, Inc., P. O. Box 433, New York, N.Y. 10016 ($1.50)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Cultural Education; *Developing Nations; *Film Production; *Films; Guidelines; *Information Dissemination; Instructional Films; *Mass Media; Television; Video Tape Recordings

ABSTRACT

Addressed to those connected with filmmaking and information dissemination in developing countries, this manual offers practical advice in initiating and maintaining a filmmaking program. In addition to general information on film history and film potential, the manual presents a step-by-step case history of an instructional film made in India to demonstrate the utilization of water sources for rural audiences. Also provided are guidelines for using television and portable videotape recording equipment. (MC)

ED 074751

No. 64

The rôle of film in development

Reports and Papers on Mass Communication

Unesco

EM 010 937

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by Peter Hopkinson

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Printed in 1971 in the Workshops of the United Nations Educational, Scientific and Cultural Organization, Place de Fontenoy, Paris 7e

COM/71.XVII/64.A
Printed in France
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PREFACE

Film, as a medium of entertainment, is now more than a century old. Only comparatively recently however has its great potential as an instructional and motivational instrument been realized.

Developing countries, anxious to accelerate the processes of economic and social change which will offer their people a better life, have turned increasingly to film as a means of supplementing or replacing traditional communication forms. And despite the advent of radio and television - even space communication - the possibilities of film in development have only begun to be exploited.

This manual is therefore addressed to those connected with film-making in the developing countries, to students of film, and perhaps more especially to all officers of government and other agencies concerned with the urgent and central work of development and who need some knowledge of how films are made and the many ways in which they can be used in development.

The new wave of so-called "factual" film-making very often offers the viewer a sensory experience rather than balanced judgement on the stimulus for change which is inherent in development. Too many have come to believe that it is enough merely to turn the cameras on, without worrying too much about technical details such as focus and lighting. Sharp, shrewd film editing which can make point after point has too often been replaced by a "cinéma-vérité" that substitutes impressions for points. People with problems, or victims of conditions, are encouraged to talk about them endlessly. Hardly ever is it considered what might be done about the problems or conditions. Emotion has often come to replace editorial perspective. Those of a new generation called upon to work in film in the field of development might well take a leaf out of the old-style - but not necessarily old-fashioned - book of the documentarist, who dealt with cause and effect.

This publication expresses the opinion of the author: that communication is not to be confused with communications, that the medium is not the message. In the field of development, it is the message that matters, and the style, technique, methods and medium of its communication must be subordinated to, and dictated by, its substance. He sets out to show that young film producers coming to film-making in this area of their own national development must learn to exercise a far greater self-discipline, if not self-subordination, than possibly in any other field of motion picture activity.

In the developing countries where the greater part of the people live on the land and are further isolated by lack of transport and illiteracy, effective communication is essential to ensure the participation of the scattered population in the life of the country. Although radio has hitherto often proved to be the most effective medium of communication in such conditions, we shall attempt to demonstrate here that the film can make as great, if not a greater, contribution than radio to national development. As the author points out, the most effective film technique in this field has in fact evolved from radio, radio reporting and documentary programming. Even television, which is a synthesis of film and radio, and the most powerful and universal form of communication yet devised, still needs film to suppy its raw material.

We must consider then not only the basic nature and the recent history of film and its techniques (fundamentally unchanged since the first projection of photographically recorded motion pictures three-quarters of a century ago) but also how these must now be adapted to presentation by television. For television is fast becoming the pre-eminent method and means of film projection.

The paper argues, too, that in the development process films should be regarded as an integral and essential element in any economic and social development plan - from the initial conception - and not as an isolated detail.

Unesco has a twofold interest in this field: it is concerned with the establishment of film production facilities and the training of personnel as an important element of the mass communication media it is pledged to promote; it is also anxious

that the fullest potential of this medium should be used in the service of development on behalf of its Member States.

The author Peter Hopkinson, is a documentary and instructional film producer, director, writer and cameraman who has filmed and made films in every continent. For his work on the American "March of Time" television series he was nominated by the Overseas Press Club of America for its award of "The Best Photographic Reporting from Abroad on Foreign Affairs". His film "African Awakening" was the United Kingdom's choice for the Unesco Kalinga Prize. He recently served as a consultant for the second regional script-writing course organized by Unesco at the Government of India Film and Television Institute at Poona. The opinions he expresses are based on his broad experience of film-making; they are not necessarily those of Unesco.

INTRODUCTION

Development, in the broadest sense, means making more fully productive the huge but hitherto under-utilized potential wealth of a country's human and natural resources.

No country in the world stands out of the race for development. The motivating force is man's desire to reach a healthier, happier and easier way of life, from which spring invention, higher technology and better methods. The urgency of the problem in the developing countries is a consequence of their late start, and there is the further difficulty of the distance that has to be covered to bring reasonable and improving standards of living to the people.

It is a race, a race to catch up. A race, as H. G. Wells once remarked, between education and catastrophe where time is of the essence. At a low level of semi-subsistence and agricultural existence, the people in the countries of most of the developing world have to achieve in a few short years the balanced degree of industrialization which in others has taken centuries. Their tremendous task is in fact to telescope time.

Here there is an important rôle for film, which, by its very nature and definition as a motion picture, exists and can only be apprehended in a period of time. A still photograph occupies only the size and space of its shape. The particular nature and quality of a film is that, unlike other forms of visual representation, it exists both in space and in time: the space of the two-dimensional screen (or screens) on which it is viewed, and the third dimension of the actual segment of time that it occupies in the viewing. And this segment of time can be literally a recorded image of its exact content - for example, a motion picture of a piece of machinery in action, from starting to stopping - or it can dramatize the story of a millenium in minutes. Through this ability to control, to manipulate, to dominate time film can make a vital contribution to development. Properly appreciated and understood, it could and should be an organic element in the process. For film can telescope time.

What is the fascination of a picture which moves?

Man has always desired to imitate reality as nearly as possible. The wild boar painted on the wall of a cave at Altamira in Spain may not move, but in the drawing the animal has been endowed with extra pairs of forelegs and hindlegs and the result, far from being an impression of an eight-legged beast, does suggest a four-legged animal with its legs extended in a stride indicative both of movement and speed. The drawing is 25, 000 years old.

In an organized succession of pictures which move, reality cannot only be recreated, it can be reinterpreted and even reordered.

This urge to control and order existence is as old as mankind itself. Seven thousand years ago screen plays were being produced in Indonesia. Figures were cut from buffalo hide and mounted on canes. With the sun as a light source these movable figures were cast in sharp dense shadows onto a thin tightly-stretched parchment mounted on a frame. These were the forerunners of the shadow plays which to this day travel the rural areas of southern Thailand and northern Malaysia. Manipulating his puppet projections of ancient myth and folklore, the Dalang still instructs, amuses, and motivates. But up the road now is a cinema, and more sophisticated fare. While in the villages visited by the Wayang Kulit - the Shadow Play - Rama, the peerless prince, and his staunch ally Hanuman, the immortal white monkey, may still vanquish all evil between sunset and moonrise and the Ramayana be reduced in running-time to a couple of hours, a few miles away, on the screen of the local cinema, the Roman Empire could now be seen to rise and fall in eighteen reels of film.

The motion picture, either in the form of the earliest shadow play or the latest film, is a calculated period of controlled time, a primarily visual experience shared by a group, a community.

On the modern screen in ten, twenty, fifty minutes a person can learn about his own and his family's origins; a tribe, the history of the nation

into which it is uneasily evolving; a nation, the story of mankind. But in order to understand and master the technique of what Lenin called this most important of all the arts, it is first of all necessary to understand the nature of film itself: why it makes things move and time leap.

HOW FILM MAKES A MOVING PICTURE

Film, the motion picture, is really an illusion, an optical illusion. All that happens is that twenty-four still photographs of the subject are taken in sequence every second on a band of film from the same viewpoint, developed and printed on a transparent base, and, with a light source behind the moving strip, projected on to a screen. In each individual picture the movement within the frame has advanced that fraction of a second. Due to a phenomenon called persistence of vision, the preceding picture is retained on the retina of the eye while the following one is being received. The result is an impression of actual movement within the frame of the picture.

Since a Stone Age artist tried to convey the illusion of movement by drawing a boar with eight legs on the wall of his cave, man has made many attempts to make a picture that moved, or appeared to move. Success had to await the coming of the industrial revolution, and by the end of the nineteenth century inventors in many countries were demonstrating their machines and their methods. In France, the brothers Lumière; in Britain, Friese Greene; in the United States, Edison ... and each one of them really had a horse to thank for his success.

In 1872 a Governor of California had set out to prove that a horse had all four legs off the ground at one time during a gallop. An enterprising inventor named Muybridge set up twenty-four still cameras in a row alongside a race track, their shutters triggered first by threads, and then by electrical contacts, as a horse galloped by. The pictures were then mounted around the circumference of a wheel, and the wheel was placed in an early form of slide projector known as a magic lantern. Each slide of the horse in motion in turn occupied the place usually taken by a single transparency. By a simple ratchet device, Muybridge caused each picture to come into place and to be blacked out before giving place to the next. Persistence of vision did the rest. The horse galloped. Its four legs were seen to be, at one point, off the ground. The Governor won his bet.

What was needed before we got a motion picture projected on a screen was someone to come up with the idea of coating photographic emulsion not on glass, but on lengths of pliable, plastic, and transparent film which, perforated down its sides, could form and retain in motion the series of individual still photographs needed for the illusion of projected movement. This was to be the American, George Eastman. And this has been the basis of the motion picture, of film, as we have hitherto known and used it since the closing years of the nineteenth century. Accompanying and synchronous sound arrived on the scene in 1928; this is carried and supplied from a band called the sound-track running down one side of the pictorial series on the celluloid base. When printed optically the sound-track reproduces the vibration of sound in terms of light.

On this optical and mechanical basis fortunes can be made, as they were by the Hollywood moguls in the heyday of the commercial cinema; but at the same time, a man learns to understand why and how he should plan his family, and a community can discover how to grow more food.

It is all a question of time, or rather of the absence of the space-time continuum which is unique to film. Let us see how it works.

HOW FILM TELESCOPES TIME - WHICH IS WHAT WE WANT TO DO IN DEVELOPMENT

In real life every experience or chain of experience is enacted for every spectator or participant within definite limits of time and space. A man may be seen digging an irrigation ditch. The viewpoint may be twenty feet away. The spectator can alter the distance between himself and the man he is watching. He can get closer. But this cannot be done abruptly. He may have decided to view the action from a distance of only five feet, but in order to do this the spectator must himself move through the intervening space, and to do this he uses up the time involved in the actual physical movement of this change to a nearer position. A man may get up from a chair and leave a room. But he cannot be suddenly then in the street. He has to open doors, walk down stairs. Much as we would often like to see what will happen in ten minutes time, we have first sometimes to endure those ten minutes of time before it is revealed to us. Those ten minutes must slowly pass in all their entirety. There are no short cuts in time or space in real life. Time and space are continuous.

This is not the case in film. The period of time that is being photographed may be interrupted at any point. It may be followed immediately by a scene of something taking place at a totally different time and at a totally different place, for the continuity of space may also be broken up in films in the same way as the continuity of time.

The screen may show an entire street, then, without transition, the picture shows just one house at the far end. At one moment farmers are seen harvesting cocoa - then immediately sacks are shown being shipped from a West African port - and a fraction of a second later a small boy somewhere else in the world is eating a bar of chocolate. In order to telescope time in this manner the different strips of film of these three separate images were merely joined together. This unlimited potentiality of film is primarily one of technique. In practice, the only restriction - and discipline - is dictated by the subject of the film itself, generally an account of some action. Therefore, in the construction of the film as a whole a certain logical unity of time and space must be observed, into which, after they have been visualized, the various scenes are fitted.

Although the film shares with the still photograph the values of two-dimensional composition, it progresses beyond that by making the composition mobile. The film moves. The design moves. The lighting changes as it falls on and across people and objects which move within the frame. And not only do the essentially mobile elements within the frame move, but the viewpoint can move and change position and perspective within the time-span of the individual scene taking place on the screen. The camera can be moved while it is recording the images; it can be turned horizontally on its axis to survey the scene panoramically, or follow someone or something in motion as a marksman does through the telescopic sights of a rifle. It can be moved back from a detail to show the whole environment, and an image taking in everything as far as the eye can see, it can move in to a close-up of smallest element within the original frame. Mounted on wheels, or held in the hand, it can dart about like an eager participant in the action, or accompany and identify with someone involved in the scene.

Each picture, while mobile in itself, has in addition an extra-dimensional relationship to the preceding and succeeding pictures. The individual images may be likened to the words, their editing and the relationship of one to the next as they are finally assembled would be the syntax of motion picture narrative.

A FILM then, as opposed to just film (the band of which the original images are recorded) is a collection of short scenes, each in itself a segment of action first visualized and then captured in time. The totality of these scenes in interrelated movement, association, and assembly can create an emotional and didactic experience. This quality, this technique of film, can motivate, inform, influence, instruct.

For example, it can show illiterate farmers the way to get water to previously non-irrigated land at virtually no extra expense to themselves. And, moreover, it can persuade them to do it - in ten minutes; Appendix 4 to this paper outlines how this can be done.

WHY FILM CAN HELP IN DEVELOPMENT

Film - the motion picture - is only one of the mass media available to government in the development drive. From the beginning the spoken and the written word have invariably been used through radio, the press and periodicals. (No one doubts their efficacy.) Often all three are the responsibility of a Minister of Information and Broadcasting, or a senior civil servant.

Indeed no Minister of Information and Broadcasting in a developing country can ignore the range and application of contemporary mass media to development, nor can any member of his ministry or department. In the quest for national unity and in preparing public acceptance of a forceful policy towards essential change, the media enable political leaders to reach and inform all social strata and every region of the country. In countries which lack a single common national language, the use of media to spread and to teach a common language is a further important contribution towards national unity. Participation in political government on the national and local levels requires continuous information, accessible to all.

Alongside radio, the press and periodicals, film can create a climate for practical innovation, stimulate the thirst for knowledge and provide instruction in particular fields, such as agriculture and health. The developing countries where there are not enough agricultural extension agents, health workers, social workers, vocational and literacy instructors, the motion picture is indispensable in spreading practical knowledge and instruction. In common with the other media, the motion picture possesses the ability to improve the quality of education in existing institutions through direct instruction or enrichment. It can make education available to those not able to attend regular schools or universities. It can provide pre-service and, in particular, in-service training to teachers at their place of work. It can introduce new subjects and methods into the curricula. It can teach new skills to adults, and even reorient their social behaviour.

All societies, whatever their stage of development, possess their own indigenous culture, but in the race for development this is sometimes in danger of being pushed to one side. Fortunately, just as the portable tape recorder may be used to preserve the unwritten myths and legends of folklore which may be lost forever with the passing away of the story-teller, so the motion picture can capture forever the dance and the drama of a people's very origins - and preserve them for future generations in spite of their changed environment. The intellectual climate which is essential to development depends on participation in the cultural past and also in the present life of the country and the world; there must be a synthesis of traditional forms of cultural expression and the modern means of expression which point the way towards the future.

We have demonstrated how, in ten minutes, film can tell a million farmers how to get water on to their land at little extra expense. It can do all this and much more. It can promote the circulation of knowledge both vertically across all social strata and horizontally across the length and breadth of countries which lack an infrastructure of transport and communications. This very elementary and fundamental spread of knowledge and information is the essential basis for any development effort. It can link all parts of a country, bridge the gap between rural isolation and urban life, establish bonds of common outlook among the people of one nation and help them to see themselves as part of the world at large, the family of man. It can establish channels of communication essential to the workings of a modern political state, which requires decision-making by all the people. Vital in an age of mass participation in the process of government, the motion picture is pre-eminent in the area of mass communication. It can provide a stimulus to moderrization, new ways of thinking and behaviour. It arouses and stimulates curiosity about the unfamiliar, the distant, the new. Without curiosity in the first place, no one can learn anything.

All I, a writer, need to convey, in order to communicate to you, a reader, this data, this

information, these recommendations on the rôle of film in development is the pen in my hand and paper on which I write. (A printing press is required to mass produce copies, but a simple machine which I could purchase and operate myself, by cyclostyling sufficient copies at the turn of a handle, could assure me of a wide audience.)

But the production of a film requires an industrial process. The large capitalization needed can only be forthcoming within the framework and infrastructure of an already industrialized (or part-industrialized) society, or by direct government investment of public funds. But few developing countries possess like India a highly developed and sophisticated film industry (the second largest commercial film producing industry in the world). Many have little more as yet than the nucleus of a simple and short informational film-making unit.

Since the purpose of government is to develop the country, the governments of most developing countries have for some time used quasi-official film units in support of the development process. They call upon them to communicate and stimulate interest in their plans. They hope their output of films will help to integrate, build, and carry the whole nation forward.

But to be successful, those responsible must realize what the motion picture - film - can do, and HOW it should go about doing it. What sort of a person must a maker of films for development be?

What manner of man? What is required of him?

To be a film-maker? Certainly, and of course. But what is really required is a social engineer. A social engineer who has chosen film as his tool, and totally mastered its methods.

"I look on cinema as a pulpit, and use it as a propagandist; and this I put unashamedly because, in the still unproven philosophies of cinema, broad distinctions are necessary. Art is one matter, and the wise, as I suggest, had better seek it where there is elbow room for its creation; entertainment is another matter; education, in so far as it concerns the classroom pedagogue, another; propaganda another; and cinema is to be conceived as a medium, like writing, capable of many forms and many functions. A professional propagandist may well be especially interested in it. It gives generous access to the public. It is capable of direct description, simple analysis and commanding conclusion, and may, by its tempo'd and imagistic powers, be made easily persuasive. It lends itself to rhetoric, for no form of description can add nobility to a simple observation so readily as a camera set low, or a sequence cut to a time-beat. But principally there is this thought that a single say-so can be repeated a thousand times a night to a million eyes, and, over the years, if it is good enough to live, to millions of eyes. That seven-leagued fact opens a new perspective, a new hope, to public persuasion."

So wrote John Grierson, more than a generation ago. Grierson, and the school he founded, set out not so much to make films for the sake of making films, but to change the world. They were social activists first and foremost. Their documentary films of the reality of the British social scene as it was during the first decade of the sound film - which coincided with the uneasy breathing space between world depression and world war - contributed as much, if not more than anything to crystallize the climate of opinion and attitude that created a welfare state in their country when that Second World War was over.

It was the purpose of film that mattered then, and in the field of development today it is still the purpose of a film that must dictate its approach, its style, its method, its technique.

Listen to another major film-maker of that same era. An era which although already historic is far from being no more than merely academic. The guidelines and principles established by those early practitioners of the so-called documentary film are as valid in a 'developing' country today as they were - and still are - in the then 'developed' country of their origin.

"Documentary", Basil Wright has stated, 'is only a word, not a magic symbol.' During the thirties, in fact, the Grierson group felt dissatisfied with it and tried to change it to 'Realist' or 'Factual'. Unfortunately we had publicized the word so vigorously that it was already embedded in peoples' consciousness, and we had to abandon the attempt.

'Documentary' is a method. It is a method of approach to public information. It is concerned with, and is a part of the machinery of mass communication which, of course, includes all the mass media, without exception. Historically the film happened to be the medium most suitable for emphasis during the thirties and the forties. Were documentary to begin today instead of then, the emphasis would undoubtedly be on television.

'The Motion Picture' is a medium of communication similar to Printing. Within the covers of a book you may find philosophy, poetry, religion, fiction, mathematics, geography, cookery and a thousand other things. Within a motion picture you may find an equal variety of subjects, no more and no less. In devising a film or a television programme the documentarist will no doubt make a conscious selection from certain areas, such as instruction, training, classroom-teaching and propaganda. (To forestall the usual criticisms aroused by this word, let me recall that it comes originally from the Jesuits' definition of their method and purpose in religious instructions.) One could perhaps say that he is selecting from an area covered by the word "Education" used in its broadest sense.

The Fiction or Feature film is made to entertain with the ultimate purpose of making money.

The documentary film is made to inform, with the ultimate purpose of furthering social progress.

The documentarist will always be something of a revolutionary, because he is using the wonderful medium of the motion picture in an attempt to improve the living conditions, spiritual as well as material, of his fellow men.

So whether he be a commercial producer contracted for the purpose, or the government's own appointed and salaried films officer, the producer of a government's films of its development programme is a revolutionary. But like all good and true revolutionaries he must accept discipline, the discipline of social responsibility. It is his job not to editorialize, but to interpret, to instruct. To interpret the needs and requirements and priorities of the national interest as expressed and defined through the machinery of government; and, by redefinition in the motion picture which is his particular province, render these into action, coherent and manifest, with and to the nation as a whole or in part. But self-discipline does not mean self-abnegation. Just as our producer of motion pictures of a development programme must respect his masters in the ministries, so government, in the form of its individual film commissioning personnel, must in turn respect the specialized and unique talents of the film-maker, and be aware of the contribution that he can himself make. He is no mere carrier-out of briefs and must not be denied the opportunity to initiate. He is, in fact (or should be) a two-way channel of communication; his cameras are out in the grass roots all the time whereas ministers and civil servants cannot often get away from their desks.

Government may have a five or a seven-year development plan. It budgets the national purse accordingly. The Ministry of Information and Broadcasting has its own share of the budget. This in turn has to be broken down yet again into so much for radio, so much for press and periodicals, so much for film (and perhaps television). How any government arrives at the proportion of its national income to be spent on its informational services is something that can only be decided in cabinet. Not enough for this vital area is worse than nothing at all, for there can no longer be any doubt whatsoever about the significance of mass media as instruments of development.

But, asks that Minister of Finance, can developing countries afford to use them? More to the point is the counter question: can they afford not to do so? For their impact on the promotion and implementation of change is so profound that it is difficult to imagine how rapid results can be obtained without the use of these media, in view of the general shortage of skilled personnel, of conventional communications systems, of educational instructions and materials.

As informational film-making in a developing country can never be a commercially viable proposition in itself, it has to be largely financed out of public funds. Responsible for the execution of the film programme - and the spending of this money - will be the man in charge, more often than not, of a government film unit. So our films officer, the government's executive producer, gets in turn his budget for the year. He has then to assess with the various ministries and departments just what and how many can be made in that twelve-month period. This should be the outcome of a dialogue and a decision between himself and the adjudicating minister or official in the ministry, or department of information, who must take the reponsibility of co-ordinating the entire programme of film with the simultaneous and parallel use of its associate media.

The film programme is then set. Films on health, agriculture, literacy, family planning; aspects and examples of rural and industrial development; the coverage of great national occasions ...

With the resources at his disposal the producer then draws up his own programme and schedule. He does not go away and then come back twelve months later with the completed films. At every stage the sponsoring department can, and should be part of the production process.

Whatever the subject, there should first of all be an outline of the intended approach set down on paper. This is known as a "treatment". This document should be easily and quickly comprehensible to the busy non-film-making civil servant who has commissioned the project.

Let us take as an example once again a film on rural irrigation. (This is an actual brief, prepared by the Department of Agriculture in the Indian State of Maharashtra, and developed into treatment form by the author.)

THE CASE HISTORY OF A DEVELOPMENT FILM

THE BRIEF

A FILM IS REQUIRED TO DEMONSTRATE TO RURAL AUDIENCES THE UTILIZATION OF WATER IN VILLAGES IN MAHARASHTRA

The region has hilly terrain, and rainfall is seasonal, confined mostly to the monsoon months - June, July, August. Dry farming, i.e. the system of growing crops entirely on the basis of sub-soil water (with no additional irrigation) is fraught with risk. Only 7-8% of the total agricultural land in Maharashtra is irrigated, the rest is under dry farming. With the bulk of the population depending on farming, the irrigation of crops to ensure stability of agricultural production assumes high priority.

The introduction of high-yielding varieties of seeds calls for even more effort in the area of irrigation. The high-yielding seeds can improve yields from the usual figure of 100-200 kg. of grain per acre to 1,000 kg. per acre when used under proper conditions (with irrigation, coupled with fertilizers and use of insecticides). The irrigation facilities in case of use of hybrids have to be improved two to three times, hence the importance of improvement of utilization of water for irrigation purposes in the area. The major irrigation projects involve the building of a big masonry dam in the upper reaches of a river, and connecting this reservoir with sub-dams at lower reaches and a system of main canals and distributing canals for irrigation purposes. These irrigation projects can irrigate thousands of acres. These are high cost projects, involving a great deal of technological knowhow and do not directly involve the initiative of the local villagers. If the village happens to be in an area served by a big dam system, it will automatically get the advantage of canal irrigation after paying irrigation charges of nearly 200-300 Rupees per acre per year.

For minor irrigation projects involving use of local resources and local initiative, the villager has to be informed about the possibilities of the utilization of water. This is the area in which the film should concentrate.

Since 1962 there has been development in the area of minor irrigation projects of the following kind:

1. IRRIGATION BY WELLS

(a) The local method of raising water from a well, with bullock power and leather pouch or tin containers. This can help irrigate about 2-3 acres of land.
(b) Medium range cultivators install an oil engine pump (where electricity is not available) costing about Rs. 3300/- (with a life of about 20 years) and irrigate up to 5-8 acres of land.
(c) Where electricity is available, an electric pumping set of 5 H.P. costing Rs. 1800-2000 can be installed, irrigating up to 10-15 acres of land.

2. LIFT IRRIGATION

The water in a nalla (seasonal stream - local name - odha) is usually at a lower level than the fields. A well is dug by the side of the nalla with sufficient capacity for water. A 50-100 H.P. motor is installed and with the help of a pipeline, the water is lifted to the level of the fields. Depending on the size, such installations can irrigate up to 50-200 acres of land. The investment for such installations is of the order of Rs. 50,000/- to Rs. 100,000/-. This is done through co-operative societies and government loans.

Percolation tanks

In a natural catchment area, for rainfall, which is higher than the level of agricultural land, tanks are made to catch rainwater. This water seeps down through the soil and raises the level of the

sub-soil water, so that the water level in the wells in the villages lower down is raised, facilitating the lifting of water from these wells.

Katcha Bandhara (earth dams)

Two to four cultivators combine to make a small earth dam to divert a seasonal water channel for cultivating the winter crops, covering about 10-20 acres. The cost is nearly Rs. 200/- to Rs. 500/-.

Vasant Bandhara

These are minor stone dams (with water locks) constructed on small rivers on nallas for irrigation of winter crops. Set up with the help of government and Zilla Parishad (District Development Council) these installations cost nearly Rs. 10,000-20,000/- and are capable of irrigating 50-100 acres.

Possible locations

Wells: Village Vehu (13 m)/lift irrigation.
Village: Khopi (17 m)/Katcha Bandhara: village;
Kamthadi (24 m)/Vasant Bandhara: village;
Kikwi (28 m)/canal irrigation: Bhor (40 miles).
For percolation tank: Sonachi Alandi (on Loni side, 12 miles) or Urali Kanchan (17 miles).

Consultants

1. Professor S. S. Thorat, Agriculture College.
2. Dr. W. B. Rahudkar, Agricultural Information Officer. (Or his nominee specialist in Irrigation.)

The film should be in one reel, of a running time of approximately ten minutes, and employ simple commentary narration in order that versions could be prepared in languages other than Maharastrian for possible utilization by other Indian States.

This was a very good brief. It was clearly and concisely written. It told the film-maker what government wanted. It gave him all the information he needed to initiate and undertake his own research and investigation.

The locations listed were then visited. The various methods of irrigation described in the brief were studied at first hand. The film-maker met the farmers of the area and discussed their problems. He sought their opinions. The reports of the State Irrigation Committee were then read and the plan documents relating to irrigation collated and assimilated. Then, and only then, was the following Treatment prepared and submitted.

TREATMENT FOR IRRIGATION FILM

A farmer is walking in barren fields, in which nothing is growing. His feet move over the dried-up soil. He comes to a river, and sits down to rest on its bank.

He stares at the reflection of himself in the water and he - and we the audience as well - hear a voice. It announces itself as the voice of water, and tells him that it can help him. That there is enough of it to irrigate his land, if only he knew how to make it go round.

Find out what others are doing with me, the voice of water tells the farmer. Go and see your uncle in his village.

At this first village of Kamthadi, the farmer is next seen with his uncle, who is showing him the Bandhara (earth dam) that has been constructed. Another voice, which could be the uncle's is now heard describing it. The diverted water is shown irrigating nearby fields where Hybrid Jowar and Hybrid Maize are growing. But the uncle's voice explains that this method of irrigation can only be seasonal. Once the main stream dries up after the monsoon rains are over, so of course does the supply of diverted water. So he suggests our farmer go on and see what has been done in the village of Kikwi.

At Kikwi the stone and concrete dam is shown, and our farmer is seen to appreciate that such a structure is an obvious improvement on the earthwork of a Bandhara. But the voice of the villager with him again points out that this still only ensures a seasonal supply of water for irrigation.

Our farmer moves on, and we next see him at Velhu. Here he is shown bullocks raising water up from a deep well in buckets. He knows all about this, and it has no lessons for him. But wait, says the voice of this third villager, take a look over here. The same sort of well is then seen, but no bullocks. The water is raised by means of an electric pump. It is explained to the farmer - and our audience - that if a village is not electrified, then an oil-driven pump would do just as well. The cost of installation could be born by the villagers forming themselves into a co-operative, and then on that basis obtaining a loan.

But none of these methods of lifting water would work on our farmer's land because, we are told, his land is on a higher level than the river which would be the source of his water. So with him we now go to the village of Hiware. Here is shown the deep well dug by the side of the nalla. The voice of the villager he is now seen to be with tells him that here in Hiware they dug this well on the higher ground by the river, and when it reached a certain depth water seeped in. With money loaned to the Co-operative Lift Irrigation Society which they had meantime formed, they bought a pump and the piping necessary to lift the water and distribute it into the fields on the higher ground. Each one of twenty-eight cultivators contributed a hundred rupees towards the basic capital.

Our farmer is impressed. On his way home he sees the percolation tank at Sonachi Alandi, and

the voice of this last villager continues in explanation of this water catchment system.

While we see on the screen a great vista of the countryside as it were from the farmer's eye-line and point of view, this same voice goes to make the fundamental point of the film: "With irrigation you don't have to wait for rain to sow. With irrigation the healthy growth of your crop is assured. With irrigation you can afford to buy pesticides and grow still more again."

"This", the voice of the last villager goes on to say, "is what we have been doing in our different ways to improve irrigation. With you, the problem may be different - but there is an answer. Go and talk it over with your Gramsevak."

Our farmer is now and finally seen back where he started. He has travelled far and wide in search of enlightenment. He is hot, dirty, and tired. He bathes in the river - and jumps up startled. For the original voice of water interrupts his ablutions and tells him not to waste any more time. They have got work to do, together.

The farmer rushes off to act on this advice, and the film ends on the water, alive and sparkling, and flowing in every direction.

A treatment for a film, written in this manner, is understandable to the non-technical mind. The layman, which in this case means the non-film-making agronomist, is able to visualize how it would be on the screen. He can see where, and how, the points of emphasis will fall.

The producer then discusses the treatment of the film with the representatives of the development authority which has commissioned it. Changes may be made. Paper is cheap. Once all are agreed with the approach and shape of the film, as outlined and indicated in the treatment, a script is written. This is a greatly expanded and much more developed document in which all the action is broken down into its separate and salient scenes; their type and nature is described; the methods of transition from the one to the other are enumerated; and the accompanying sound narration, and possibly dialogue, set opposite on the right hand side of the page. (Very much a blue-print of a film that now already exists in embryo, this is virtually the same format as the full scene-listed outline of the irrigation film included in Appendix 4 of this paper.)

Back the producer now comes with this script. It is discussed. It is debated. And only when all concerned are satisfied that it incorporates what is required, in a manner most suited to the particular audience for which the film is intended, does it go into actual production.

But there must now be a breakdown of what it will cost. Enter the film unit's Production Manager. His all-important task is to ensure that camera crews are in the right place at the right time, and that the proportion of money allocated to the particular film from the unit's total and annual budget is not exceeded. He must calculate how many days of filming will be needed. How many days of travel. The costs of accommodation and subsistence of the camera crew in the field. The number of technicians required. Will there be indoor filming, in which case he must allow for artificial lights and electricians. How many days of sound recording will be required on location. Could money be saved by doing all the recordings after the filming, back at headquarters. How much film will be needed. The costs of its processing. The list goes on and on, and finally he must add an overall percentage for contingencies and the permanent overheads of operating the film unit itself (or the production company, if he is a commercial contractor).

The film then, at last, goes into production. With the director, the camera crew go off into the field. And they should now be left alone. Only the producer should be in contact, viewing the batches of film as it comes back for processing, assessing it in the light of the concept as a whole. He, and he alone, can give guidance and if need be criticism at this stage.

Finally all is shot, and then assembled in the right order. The narration is written and tried out alongside the picture. Not yet recorded however. It is only read out loud while the still silent and roughly-cut film is projected on a viewing screen.

The sponsoring department are now shown their film for the first time on a screen, but still in this primitive and completely adaptable state. The relationship of scenes can be altered. They can be taken out, put back. The whole order possibly rearranged. Additional scenes can be made, should it be considered necessary. The words can be changed. Completely rewritten if need be. Paper is still cheap. And only when all concerned are once again satisfied that what takes place on the screen before their eyes is right for the ultimately intended audience, and only when all concerned are convinced that the words, which at this stage still only exist on paper and are merely being read to the picture, are right for that audience - only then does the producer say: "Right, the film is approved, record the sound and cut the negative".

Up to this moment change is still possible in every dimension of the motion picture.

And so, when government commission a film or films, they need not be afraid that they are just handing over money for the making of something over which they have no control. They have open options at every stage. Checks and balances exist which can be exercised all the way along the line, from the drafting of the treatment to the sound recording of the finally edited film. Both sponsor and producer can, and should consult one another continually, from conception to completion.

This two-way collective process can only work, however, if sponsor and producer understand and respect each other's areas of creativity. The film

producer would not presume to tell the agronomist how to irrigate a field. By the same token, the agronomist should not attempt to tell the producer how best to make the film (even if he has his own 8 millimetre camera and rather fancies himself with it).

This is a problem which has increasingly bedevilled sponsored documentary film-making. Eighteen years ago the British film-maker and critic Paul Rotha saw the threat quite clearly:

"The business of interpretation," he wrote, "enters in at all points. In particular, it is the ability to interpret convincingly what is increasingly the business of the expert, which determines the status both of the individual film-maker and the organization of which he is part. J. B. Priestley has said that, 'an artist has to be a technician but he also has to be something more than a technician'. At the moment there is a grave danger of the documentary film-maker turning out something less. The danger was there from the beginning but it has become more acute. There are today, in a majority of countries, permanent peace-time film information services. Yet other countries have fully nationalized film industries. Whatever the relative differences, one common problem at least exists. Under such conditions the creative worker can easily lose any effective part in determining what shall be said and how it shall be said. This is not meant in narrow, individual terms, but collectively. Unless, for example, a government film office has some power of initiation over its film programme, it quickly finds itself in the position of having to work within the narrow requirements of individual ministries. This can mean not only a real danger of losing the wider national perspectives, but an even greater concentration on the more specialized instructional and informational films. If at this level there is no initiative allowed and therefore no authority, the whole creative side of film-making loses status proportionately. By being subordinated to the departmental expert, which is what this means in effect, the film-maker is easily stripped of any power of interpretation not only of subject-matter but of the actual medium itself. The expert will in effect direct the film."

But in point of fact neither the sponsor or the producer are ever in a position to direct the film (even if they might want to). Only one "expert" can do this. That is the man beside the camera. The man who, faced with it all happening, or waiting on his word to happen, must control the situation. Shape it. Film it. The man whose name is on the number board, photographed at the beginning of every scene and set-up alongside the word DIRECTOR.

Unless a film's production schedule is something dictated by the actual time-cycle of its subject - such as the breaking of the ground to the putting on of the roof of a new factory - there is no intrinsic reason why it should take very long. Particularly if, as in the case of most development films, it focuses on "the little picture", and not a vast great impersonal panorama requiring cameramen to cross and recross the same territory during its filming. A basic reason why the making of films can take so long - and therefore cost so much money - is often the sheer inability of the film-maker to visualize the finished film on the screen of his own mind before he has sent a foot of film through the camera. The old-style traditionalist documentary method of shooting miles and miles of film around and on the subject until he was eventually recalled by a harassed head office, then to spend month after month in the cutting room attempting to make some sort of sense out of it all, with the claim that this was the true "creative" process, is just no part of practical film-making any more; let alone in a developing country (even if it is still a luxury enjoyed by some of television's documentary prima-donnas). It is not only too personal - it is of course quite uneconomic.

What distinguishes the director from all other members of the film-making collective is - or should be - this talent, this ability to carry in his own head, at every stage, all the time, the entire film as first visualized and as eventually to be completed. For the producer it is one of many film-subjects he is fitting into the country's overall and annual film-making programme. For the cameraman it is an assignment during which he is called upon, by the director, to set up his camera and make a series of single and separate motion picture shot-images, so far as he is concerned complete and separate entities in themselves. It is the director, and only the director, who knows - and has already seen on the screen of his own mind - the interrelationship of all these parts to the whole. If he does not, or if he cannot, then he is a bad director; and no editor, however talented he may be in the manipulation of all the separate strips of film images when he, in turn, gets his hands on them, can save the film as a whole. Here is where the money is saved, here is where the film should be made: in the director's mind in the first place. The task of a film director is to visualize, and then organize, the subject of his assignment as a film, commit it first to paper via treatment and script, and then regard the subsequent schedule and cost breakdown of its filming as just as much a challenge to be met and responsibility to be accepted as anything else in a commitment which should be total, as well as creative.

This is the type of film-maker, director, that film schools of the future should aim to train and the attitude they should encourage.

Much of documentary and informational film-making in the past was never truly cost-conscious. We were the film-makers, they were the money-lenders. The producer did not have to show a "profit"; it did not seem to matter very much if he operated at a "loss", so much expenditure could always be "lost" somewhere along the line of

industrial or governmental sponsorship. There was never any urgency, always plenty of time. This is no longer the case. The sponsor nowadays wants something that will do the job he has in mind, for the amount of money he has available. To be cost-conscious does not necessarily mean impotence for the film-maker, or that he cannot create his film.

By the nature of its method, television (as opposed to merely making films which might be televised) has now imposed a much stricter discipline. Both individual plays and the episodes of series are generally restricted to a minimum of locations and cast. A television script exists in two versions: the dialogue and the camera script. The latter has every movement and set up of the cameras planned, plotted, and exactly positioned. There is not time or money to waste once they are switched on and recording the action. (There is also a strict timetable and deadline to meet.) The film-maker can learn a lot from this. To pre-plan does not necessarily mean to inhibit.

The other factor which can delay and lengthen the production of films - and hence increase their costs - is the very body that should be trying to speed it up and save money: and that is government. Granted that an officially-sponsored film has to receive approval from the appropriate officials and experts at its various stages of production, this process should none the less be reduced to a minimum. A film cannot afford to be held up at rough-cut stage just because the necessary committee cannot be assembled to view it. Must we wait for commentary approval merely because the appropriate minister is away on an overseas trip?

The producer, and the minister or his deputy, must evolve a working arrangement which streamlines the channels of approval and minimizes the number of people involved in the process.

But even with proper planning and exact cost-control, film-making is still a relatively expensive business. The reputable private enterprise or independent producer, in some instances, can be utilized in a development context. He could undertake to finance a development film, providing his approach and method is acceptable to government, in return for a share of whatever profits might result from the subsequent sale and release of the film, or series of films.

Countries within a particular region might also consider the sharing of costs and facilities for certain projects amongst themselves: films designed to meet a need and having an appeal for no one single country in the area. In any case, there should be regional co-ordination of development film-making. Every country needs a viable and professional sixteen millimetre film operation as the basis of its motion picture development programme. This is as important as script and camera. But in the same way as not every developing country needs or can afford its own national airline, neither should it be called upon to invest in its own sixteen millimetre film processing plant. (And there are not all that number of trained laboratory technicians available.) Surely the answer here is for the smaller nations within a particular region to share in the costs and operation of such a plant?

LESSONS FROM AUDIENCE REACTIONS

Fresh from teaching film at the University of California, and on the eve of taking up his appointment as Director of the British National Film School, Colin Young summed it up in a sentence. "Film training", he said, "is basic research into the nature of the industry and the nature of the audience."

It is the nature of the audience that decides not only the choice of subject matter but also the manner and technique of its telling. The American motion picture industry now caters primarily for the under twenty-fives, the boys and girls who leave their parents to watch old films on television at home, jump in an automobile, and take in their movie at a drive-in. What they see on the screen, what the industry now tries to put on that screen, is what it thinks reflects the attitudes of this new generation which rejects what it regards as the false and stifling world of the consumer society that its parents have built, and in which it regards them as trapped. They want, as they put it, out.

Brought up on the television commercial while their parents were brought up on nursery rhymes, they accept a deliberate discontinuity and stylistic syllogism in the films which many of them are making, and in which all of them feature.

But the film-maker in a developing country has a different audience entirely. His audience is, in the main, illiterate and for them a photographic reproduction is a novelty, let alone a motion picture.

Perhaps we should now turn once again to example and experience. In what follows we are greatly indebted to a study carried out by the Indian Institute of Mass Communication. The impact of just four of the hundreds of films made to inform, instruct, and motivate India's five hundred millions was followed up and evaluated. The films were produced by the Government's Films Division, at its Bombay headquarters. They were shown to villagers, in villages, by mobile projector units. The following day the villagers were questioned as to their reactions. The first two films, ALL GOD'S CHILDREN and MY WISE DADDY were motivational, on the need for family planning. The third, HIGH-YIELDING VARIETY OF PADDY, was an instructional film on the plantation and cultivation of the new high-yielding rice. The fourth was an informational film which, in cartoon form, set out to explain the need for development planning in general, and India's current five-year plan in particular, DREAMS OF MAUJIRAM. In this our little turbanned hero had his personal dreams, while in Delhi the planners dreamed-up development on a much grander and national scale.

The author has seen all four of these films, in the comfort and isolation of a projection room at the Film Institute of India. In his view the first was a brave try but an unfortunate failure. It started with a "typical" family in a village, trying to make ends meet and worrying about where the next meal was coming from; and then, from time to time, jumped into a film studio "heaven" where, surrounded by patently artificial clouds, bevies of children were seen to be in this happy state of limbo instead of becoming just so many more problems in the population explosion. These two worlds of those born and those unborn were linked by the appearance of a sadhu - a seer - whom it could be presumed was already deep into his own personal cycle of birth and rebirth. For although misguided, this film was a genuine attempt to acknowledge and face up to the crucial problem of birth control in Hindu society, a society in which reincarnation - an endless cycle of birth, death, rebirth - is fundamental to its faith. MY WISE DADDY was a pleasant little cartoon film in which a little girl, the younger of two children, kept worrying her father to give her another little brother. Her wise parent refused. But the film must have failed in its objective, because inevitably an audience identified and sympathized with the little girl, so appealing was she, and not with the less attractive figure of the father.

HIGH-YIELDING VARIETY OF PADDY suffered from the common curse of so many sponsored films - the sponsor, the expert, had obviously insisted that the whole textbook of the subject be forced into the one short film. The result was confusing. Too much happened too quickly for even a nimble mind to grasp.

DREAMS OF MAUJIRAM was another cartoon film. Maujiram day-dreamed instead of helping his wife in their day-to-day struggle. His dreams took him off to the big city, where the funny little folk of cartoonland demonstrated with their own peculiar lack of linear logic what planning was all about: that Maujiram would enjoy a better life only by virtue of their respective needs to plan. It was pleasant, entertaining, informative. But did it work for the mass audience for which it was intended?

Let us listen to what an enthusiastic and dedicated worker on the field of audio-visual aids to education has to say. Saulat Rahman tramped the villages on the heels of these films, and prefaced her report by first stating that her observations were based on these personal impressions. (But how many film-makers follow her example? Did the directors of these four films ever leave their apartments in the city and go out and watch them with a village audience?)

First of all she reminds us that the rural audience is not, after all, a captive audience. Not all the requests made ever so politely bring the villagers all together to view the films when the show starts. Children will always be first, but no one can ever tell who will be the last to arrive, or when. The film show, like most such things in village life, is a social event. People come and go when they please. Mothers arrive with infants in their arms, for they cannot come otherwise. The infants, like babies all over the world, cry, and sometimes yell. Attention wanders. The older people smoke and gossip - perhaps where a point in the film has set them talking. Even without these distractions, it was doubted if the audience could have been able to absorb and comprehend the commentaries of the films. Commentaries which argue out a point of view such as the need for limiting families to avoid population increase; commentaries packed and overloaded with information concerning the cultivation of a new strain of rice; or the need for planning and the manner in which five-year plans are made.

It therefore did not surprise our field researcher that ALL GOD'S CHILDREN and HIGH-YIELDING VARIETY OF PADDY failed to convey the reasons for limiting families in one case and the method of cultivating a new variety of rice in the other. ALL GOD'S CHILDREN failed to convey anything significant. The complexity of its construction confused the audience. The conversation of the sadhu with the villagers, the indecisions of the farmer regarding his marriage, his trials and tribulations, the reasons for population increase - all failed to register. With the rice film, Miss Rahman reports, it must have been a rare farmer indeed who was able to recognize the straight fact that the film showed the method of cultivating the particular new variety that it was supposed to be featuring. No one in the audience she afterwards questioned remembered the names of the other high-yielding varieties of paddy mentioned in the film, the insecticides, fungicides or fertilizers suggested, nor the stages at which the fertilizers and chemicals should be applied. It would be wishful thinking, she says, to expect anyone to remember the proportions or combinations of the fertilizers, insecticide and fungicide mixtures or manures given in such detail in the film. The film carried all its information in the commentary. The information-content registered by the audience in DREAMS OF MAUJIRAM was also poor. No one could afterwards tell what the National Development Council did, what its membership was, or who was its chairman. No one remembered the process of preparing a draft plan, while to some persons the Planning Commission was an office located in the city nearest the village. It was doubted if anyone established any connexion between the dreams of Maujiram and the dreams of the five-year plan makers. The reduction of all these abstracts in cartoon form was just too subtle. There were no points of reference.

On the basis of this evidence, it seemed to Miss Rahman safe to conclude that film fails as a medium of conveying information to rural audiences when it rests heavily, if not entirely, on the commentary being grasped and recollected. The commentary is either just not heard or, if heard, just not understood; either because of difficulties of language, or difficulties created by the rapid pace at which it puts across new ideas and arguments.

On the other hand, there was no difficulty in getting across the message of MY WISE DADDY. The commentary was brief, simple, and direct. The opening sequences, spoken clearly and slowly by a child, caught the interest and attention of the audience right from the start.

If this is the general reaction to commentary, asks Miss Rahman, what is the fate of the visual image? And here she is happy to report that the answer is positive. Much of what is retained is the impact of the visuals. The films are "seen" in engrossed attention. The brain as it were closes itself to the messages directed at the ear - but the eye continues to see, incapable of resisting the fascination of moving images projected on the screen. "We did not hear what was said; we only saw the film", was the response of many people to her questions.

The audience enjoyed HIGH-YIELDING VARIETY OF PADDY, but for the wrong reasons. They enjoyed it because in it they saw other farmers doing the sort of work they did themselves. In a way they were able to recognize themselves on the screen. A woman who had her own rice fields remarked with confidence that she had fully understood the film. On being questioned further, she narrated the various essential processes in field cultivation with which she was in any case herself familiar. "The film" said she, "showed sowing, planting, irrigation, mixing of manure. All this

we do. When the crop is ready, we harvest it and winnow the grain". That was the sum total of all that she gained from the film.

The cartoon films left no such vivid impression, though comic scenes such as the father unrolling his moustaches in MY WISE DADDY and the turbanned Maujiram smoking a hooker caused pleasant comment. DREAMS OF MAUJIRAM kept the audience engaged when it was just an amusing story of a somewhat lazy but likeable character - but only up to the point when the message of the film was brought out with his arrival at the Planning Commission. Thereafter the interest lagged, only reviving when Maujiram returned to his village and surprised his wife at the change which had been worked in him. Here, albeit in cartoon form, in the village scene once again, the audience had an area of identification. In the rice film, only a very careful study of the text of the commentary revealed that there were three stages of fertilizer application and six of insecticide and fungicide spray in a growth process of about sixty days. Visually these stages were not distinguished at all. The recipes for fertilizer application and differing spray mixtures were just "told" to the audience by the commentator. Little wonder, says Saulat Rahman, that nothing of all this left an impression on the audience.

The morning after the film show, she revisited each village. In the sunshine the village appeared as it must always have been since times immemorial - still, quiet, unaffected by change. The open space where the evening before an excited crowd of men, women, and children had thronged to see the film show was deserted. Except for a few children and the barking of dogs, her arrival went unnoticed. People were at their daily work, in the home or in the field. Miss Rahman overcame her hesitations, and tried to elicit responses to the film show. Generally speaking there was no reluctance on the part of the villagers to answer questions, but the manner in which the answers were given indicated that the film show of the previous evening had no relevance or meaning or significance to their way of life. It was something that had happened, and was seen when there was nothing else to do. The film show was an experience - shortlived, ephemeral, folded in the darkness of the evening and gone for ever. The daylight brought pressures of urgent toil. There was no connexion between the film show and the realities of life. It was all very nice, some said, specially as so much trouble had been taken to arrange it. But some embittered souls, perhaps tired of having spent a lifetime in tilling such an unrewarding soil, were not so polite. "Why ask us questions?" was their response. "When the stomach is full, everything will appear nice."

The responses from illiterate adults, men and women, were not very expansive. They were negative, but none the less eloquent, for their very silences provided a key to their reactions. The responses of children, particularly from those enrolled in school, were more vivacious. There was greater recall, and a sense of greater involvement in what they saw in the films. However, even among children there was no comprehension of the message of the films. The best responses came from young adults who had acquired a degree of literacy, and this pointed to a clear correlation between the level of literacy and the response to film.

Miss Rahman concludes that it is impossible to escape the feeling that it is therefore necessary to devise special kinds of films for non- or neo-literate rural audiences. An important factor is the ability of unlettered audiences seeing films for the first time to recognize and comprehend certain kinds of films: those which are forceful, clear, and pertinent to their experience. In the view of this field worker, it follows that films made for rural audiences should make a much greater effort to use the camera, as she puts it, effectively. The essentially narrative character of communication should be exploited to tell a story in pictures at a slow pace and in a simple manner. As far as possible, special effects and techniques should be avoided. Force and clarity, says this lady, not technique and sophistication, should be the essential quality of film. Her final conclusion and message to those of us who have not had her opportunity to follow-up our work, as it is shown and received in the rural areas of the developing world, is blunt and to the point: The producers of documentary films must take into account the very special needs (so simple at times that our sophistication is itself a barrier) of the rural audience. Indeed, it is time that a set of special documentaries was produced only for our rural areas."

DEVELOPMENT FILMS CAN BE ENTERTAINING TOO

Hitherto we have concentrated very much on film for the rural audience, for the great majority of the population in a majority of developing countries live in relative isolation in the rural areas. But none the less millions do live in cities, and for them the motion picture in cinema halls has long been a reality of their everyday lives. The staple diet of their programme fare is the entertainment feature film, in many cases imported from the production studios of economically more advanced countries. There is little here that reflects life as audiences in developing countries know it, much that is escapist and dreamlike. And this is of course true of the commercial entertainment film everywhere.

Can "development" be reconciled with "entertainment"? And can the screens of the urban and commercially-owned and operated cinema halls be made to reflect the realities of national development, be made part of the process, and keep their audiences in their seats while they do so? Government legislation can force cinema halls to show an official short documentary film in every programme, but they can't force the audience to stay in their seats during the screening. And even if someone remains in front of a screen on which a film is being projected, nothing on earth can stop his mind wandering away except that film itself. It must grip and hold his attention and interest totally.

Not every country has its own feature film production industry, but few developing countries are without cinema halls in their cities, and few of them do not produce some sort of a newsreel. It is the oldest, most widely accepted, and was once the popular format for the informational motion picture. It is also the one of the least value.

With its more instant and immediate news round-up the evening of every day, wherever it is established television has driven the newsreel off the screens of cinema halls and killed it. But if a country does not yet have an extended television service, and if the peoples of the cities still flock to the cinema, how else to use those screens in the cause of national development as well as pure entertainment?

The answer is the magazine film, the newsreel in depth and perspective, if you like. Not the usual frenzied shots of a minister cutting a tape to open a newly-built bridge - but what the opening up of that new artery of communication means to the people on the other side of the river. Not the familiar coverage of politicians and pundits at a conference called to promote regional unity - but an investigation and report on what common interests and shared problems do genuinely unite the peoples of the area. Not just a rally of a youth movement doing a march past - but the story of how, before he joined, a boy from the bush was almost destroyed by the city.

In this way mere events and occasions - which only reflect the surface of the real forces and pressures at work - are developed in depth, made informative, inspiring - and entertaining in the very real sense of the word.

The ordinary run-of-the-mill straightforward newsreel is even more valueless to the mobile projector unit touring the rural areas. Away from base for weeks at a time with his single package of films, a newsreel as such will have been overtaken by events and be out of date before the operator has even reached the second village on his list.

In its place, and alongside the national news-magazine for urban audiences, why not a rural news-magazine series as well? The one could feed and supplement the other, and in the process help to overcome the division between country and town.

And not only the division between town and country - but also the conflicts of interest between different regions of the same national state. The news-magazine must always be rooted in a truly national concept. Reflecting as it must do the drive towards national development and nationhood, its approach must never be parochial, but should be focused always on the national interest: on what binds and unites and is in the interest of all - and is seen to be so.

The straightforward filming and coverage of news should be left to television. Meantime one

unit within the national film unit might concentrate entirely on the making of such a news-magazine. Once a month, in two reels and twenty minutes, it could develop and report and interpret an event or an issue in real depth, relating its approach to the terms of reference and experience of the audiences who will be seeing it, in the cities, only as a preliminary to a full length feature film of escapist entertainment. Who knows, in time, in the course of the development process, they may even come to prefer the shorter film which reflects the reality of their own world - but entertainingly.

Such a series of films as part of the entertainment programme in the cinema halls of the urban industrialized sector demands an extremely disciplined approach and co-ordinated production operation. But if developing countries can report, write, set up, print and distribute a newspaper every day, why should they not produce a twenty-minute motion picture news-magazine every month? For this too is journalism, responsible journalism as Walter Lippman, dean of American journalism, has defined it: "Facts have become so inordinately complicated that they are by no means self-evident to readers or reporters. More and more, we have come to realize that fact-finding is inevitably an interpretation, and that there is often no single or sacred version of the fact. The best reporters have not merely to note down what has happened. They have to explain how it happened. And so the boundaries between fact and opinion are no longer quite sharp. As for opinion, it must of course be free. But I think we have to add that if it is to remain free, for the long run it must in a very special sense be responsible. In serious matters it cannot be merely a kind of subjective utterance, and expression of personal feelings The hallmark of responsible comment is, I should say, not to sit in judgement on events as an idle spectator but to enter imaginatively into the rôle of a participant in the action. Responsibility consists in sharing the burden of men directing what is being done, or the burden of being an opponent of what is being done, or the burden of offering some other course of action in the mood of one who has realized what it would mean to undertake it."

There is no subject which cannot be expressed and treated in film. It is simply a question of the trained, and imaginative mind perceiving the line and method of approach - and the facts - in terms of a motion picture, and as related to the particular audience concerned.

The keynote is always simplicity. Strip everything away until you get to the heart of the matter. Isolate, and then elaborate, the essentially filmic element in the subject.

In a straightforward instructional film, show the process, then go back and show it again, then go back and show it yet once again. The first time to acquaint the audience with what it looks like, what it does. Then go back again to the beginning, and show each stage of the process and its mechanics in step-by-step detail, pausing long enough to ensure that the contribution of each detail to the overall progress and pattern is quite clear and fully comprehensible on the screen. If the photography is not crisp and clinical, getting to the heart of the matter in close-up after close-up, then no amount of spoken commentary will tell the audience anything. Then show the whole sequence of events yet once again, just to remind the audience of what it looks like and now how it works and performs in actual practice.

Involve them, make them feel that they are there, make them feel that they are themselves participants.

In the case of a combination motivational-informational film, such as the example of an irrigation film used as a case history in this paper, search for a device which will enable the audience to identify with the image. What sent them off with our farmer in the film in his search for an answer to his problems? The water that he was looking for. We used an imaginative but perfectly acceptable device here - the voice of water itself told him what to do and where to go. This was made possible only because of the peculiar nature of sound motion picture. Here was an offscreen voice used not to rattle off a stream of statistics and instructions, but to motivate the man in the film, and the audience.

Many developing countries look to tourism as a source of foreign exchange. Poor in everything except natural resources and beauty of landscape, they are busily building up a tourist industry. Not only do they build modern hotels, they also make films to advertise the attractions and amenities of their land. In the case of a country like Kenya, this is no problem, even for the least imaginative. Plenty of wildlife, good climate, organized safaris. But over on the other side of Africa, how about a country like Ghana? Here the accent could be on Ghana as the first dependent country to achieve independence in Africa after the Second World War. Despite her own share of subsequent setbacks, Ghana has continued to be very much a pace-setter. As well as her own quota of dramatic scenery and newly-built hotels, she has an honourable and unique record in the entire continent's struggle for freedom. A Ghana film could show the burial place of that great Afro-American freedom fighter, Doctor W. E. B. Dubois, in the wall of Accra's Christianborg Castle, whose dungeons were once way-stations for his people's forbears on their way into slavery on the other side of the Atlantic.

Whether it be in the field of tourism, community development, family planning, literacy, agriculture, fisheries, forestry, mining, waterways, health, co-operatives, social services, industrial engineering, productivity, vocational and management training there is a film - or more often than not, a series of films which can inform, instruct, and motivate; which, in the aggregate, can develop, and build, and unify a nation.

Look for the heart of the matter, film-maker and film user. Put yourselves down in front of the screen, with your audience, before the film is made. From the moment you ask to have it made and are asked to make it. That is both your starting and your finishing point.

OLD AND NEW WAYS OF SHOWING FILM

Hitherto, and for quite a long time to come, the projection of film on a mass basis in the developing countries has been and will continue to be optical. That is in the form of the travelling projector unit - vans equipped with film projector, loudspeaker, screen, and of course a package of some four or five assorted films such as Saulat Rahman evaluated.

Ever since the first of these units set off on its travels in East Africa back in 1935, this has been the accepted method and mainstay of bringing film to a majority rural audience. But those original pioneers were aware of a basic factor which seems meantime to have been overlooked or forgotton. That is that the films which are shown must be made for this audience, and not be just smaller sixteen millimetre copies of films originally made in thirty-five millimetre for cinema halls or urban educational establishments.

It is worth a look back at that pioneer experiment in Kenya, Uganda, and what was then known as Tanganyika.

Two Europeans and four Africans travelled in a two-ton Ford truck, with a petrol-driven electrical generator to power their projector towed in a trailer behind them. In five months they covered 9,000 miles, and gave over 90 screenings of films to more than 80,000 people, most of whom had never seen a motion picture before. The films they showed averaged twenty minutes in length, and in subject ranged from the causes and cure of hookworm and malaria, to infant care and nutrition; from soil erosion to co-operatives; from coffee-marketing to egg preservation; from the post office savings bank to the artificial insemination of cattle. Miss Rahman would doubtless be interested, if not surprised, to know that another one of their subjects was entitled HIGH YIELDS FROM SELECTED PLANTS. In thirty-five years, nothing has changed. The subjects of the films are still the same, the needs are still the same - only now more pressing and urgent.

What does seem to have happened meantime is that while equipment has become more developed and producers more sophisticated, the makers of such films have grown more and more out of touch with their audience. Just compare the approach to the film on new high-yielding varieties of plant by these genuine missionaries thirty-five years ago (in their case it was coffee) to what has been told us was the complete failure of something similar, but more than thirty years later, on rice.

Notcutt and Latham describe their one-reel film as beginning with some shots of research work in progress in the laboratory and in the field, followed by scenes of coffee being harvested, pulped and measured. Under six similar-looking coffee plants the yield from each was placed in cellophane bags, enabling it to be clearly visible. This showed that most of the crop had come from two out of six of the plants. The film then went on to demonstrate that seedlings grown from the high-yielding plants resulted in high subsequent yields.

Simple, direct, and VISUAL. The picture, not the commentary, clearly made the basic point that seedlings grown from high-yielding plants resulted in higher subsequent yields. The audience could SEE this, on the screen, in close-up demonstration.

Every one of the eighty-five reels of film produced by this so-called Bantu Educational Cinema Experiment thirty-five years ago was made by the same handful of people who then took them out into the field and screened them. Those who made the films showed them. Those who showed the films made them. Evaluation of audience reaction was therefore an instant and integral part of the production-projection process. Here is indeed a lesson.

The basic packaged programme of some four or five assorted films on different subjects has been followed to this day. But is this format necessarily the right answer to rural needs?

To a rural audience a film evening is a unit in itself, however different the subject of the films may be, however interrupted by an introduction the screening of each film may be. It is difficult for the audience to remember or recall with any confidence or clarity the number of films they saw

in the previous evening's film show, much less the titles. One film tends to merge into the other, and if there is a break in projection, the audience views the second part of the film as if it is a new film. Even in urban cinema halls the reels of film sometimes get mixed up. How many of the audience spot this right away? The medium, it has indeed been said, is the message. To the unsophisticated and inexperienced viewer, the beginning, the end, or the middle of the film has no meaning. It is all one continuous flux. The swiftly moving images hold his attention as if in a dream, and in this state he does not question what comes and goes.

The presentation of film is therefore every bit as important as the nature and the projection of film. The person in charge of the mobile projection unit must be a great deal more than a mere driver-mechanic, capable of setting up the equipment and showing the films, using the time they are on the screen to enjoy a smoke or catch up on his sleep. He must himself be an agent of development change and process.

What has gone wrong in many countries, given a poor reputation to the mobile projection unit, and worried Miss Rahman, is that these travelling units have been used by personnel other than those in charge of the local development process and projects or without their help. The common practice has been to send out these vans with a driver-projectionist, possibly an "Information Officer", whose prescribed jobs are simply to screen so many films in so many villages each week, naturally "introducing them to the audience". Usually the mobile van personnel have originally been instructed to organize the showing with the local extension worker, health officer, nutritionist, depending on the case. In fact, however, this seldom happens, because the whole operation of the mobile unit is separate from the actual local development infrastructure.

Film can only become effective in development situations when it is used by or in tandem with trained, locally working development personnel. They alone can effectively introduce the films and then follow-up with discussion. It is these local "agents of change" who know what stage of "awareness" the villagers have reached; what their problems really are; what their objectives or doubts are; and they alone have a chance of enjoying, if not the confidence, at least the neutrality of the audience. Used and programmed in this way, mobile projection vans can still be both extremely effective as well as cost-efficient.

Some twenty years ago the late Professor Ombredanne, of Brussels "Université Libre", carried out some interesting experiments amongst people exposed to the power and influence of the motion picture for the first time. He took a mobile projector unit into an African village. For the villagers he screened a film which depicted a step-by-step illustration of how a knife measuring approximately six inches long was made on a blacksmith's forge. After seeing this film three times one of the village craftsmen departed to make a similar knife for himself. After several hours he returned. He showed Ombredanne his handiwork. It was the same knife alright, correct in every detail, but he had made it four times as big as the original, because this was the relative size as it had appeared to him enlarged on the screen. But audio-visual communication - in the form of film - had taught him how to make a knife.

On a day in April 1967, a mobile cinema visited a village in the Eastern province of Cuba, most of whose inhabitants had never seen a film before. In a film of this event, made by Octavio Cortazar, they were interviewed as to what they thought a film might be. They had no conception, only an eagerness to discover. One woman supposed it must be "a very beautiful thing", "like a party". And what does one see, a man was asked? "Beautiful girls and snakes" he suggested, hopefully. This took place thirty years after that pioneer projector unit first set up a screen in an East African village, and here, in a Caribbean island, motion pictures were still a mystery. Thirty years on from now, at the turn of the century, it is difficult to believe that this will still be so, anywhere. For no longer is it necessary for the apparatus of film projection to be physically transported to those remote and inaccessible regions where so many still live. Its image can now arrive in a flash, through the ether, like radio, anywhere, any time.

Six thousand years ago, in the land of the two rivers Tigris and Euphrates, the Sumerians pioneered pictographic writing. Today we talk glibly of post-Gutenberg man, but the bulk of humanity in the developing countries are still living in a pre-Gutenberg era. The printed word has yet to penetrate these huge areas of illiteracy.

Fifteen years ago a new form of pictorial communication flickered in the corners of cafés along Baghdad's Rashid Street. An industrial and trade fair had just been held in the Iraqi capital. A commercial company had set up and demonstrated a complete closed-circuit television installation. It had been the hit of the show. Other exhibits and pavilions had folded their tents and moved on, but this electronic complex remained. Taken over by the government, it was now installed in a large house on the east bank of the Tigris as the first television service in the Middle East, in the Arab world.

Within less than five years the first in Africa was on the air in Western Nigeria. From studios in Ibadan were originating moving and talking pictures which taught not only the elements of literacy, but also demonstrated its mastery in the dramas and plays of such playrights as Wole Soyinka. WNTV, as the trail-blazing channel called itself, did much to stimulate, encourage and commission the work of Nigerian writers who might otherwise never have had their work performed.

Every new country is under some pressure to install television. It is a badge of prestige and an invitation to entertainment. But a developing country's first problem with television is to decide when to start to use it and in the course of making that decision, it must decide what kind of television.

Some hard policy decisions are called for. The considerations are much the same as those for radio, which already always exists in one form or another, but the costs are much greater. Transmitters, studios, and studio equipment, programmes, receivers, all cost several times as much as corresponding items for radio. Maintenance is more costly and operation in general requires more skills. If television is to be installed in a country, these costs and training needs must be faced frankly in advance, and plans made. In fact the establishment of television to assist in development is in itself another degree and stage of development.

The essential question is where television belongs in national development. It is more, much more, than a device eventually to take over from the mobile film projector vans. What the people who clamour for television are usually asking for is the succession of entertainment programmes that they have seen when on visits to countries that are further advanced economically. These are the "Westerns", the crime mysteries, the situation comedies, the variety shows, the sporting events. A far cry from the necessity to plant and cultivate high-yielding varieties of paddy. On the other hand, in a given country it may be desirable, at a certain point in development, to offer some such relaxing programme fare; and it could be argued that the bonus of news, public affairs and instruction mixed in with the entertainment programmes might be enough to justify the expenditure for television in development terms as well as entertainment terms.

Receiving sets in a developing country are likely to cost something in the nature of 300 American dollars apiece. The number of families able to make such a purchase is infinitesimal. Most viewing therefore will take place around communal sets in public places. This implies school use, adult centre use, viewing groups, teleclubs, and so forth. Utilization for this type of audience surely calls for a practical and serious kind of programming, for television's effectiveness in a public affairs and instructional context is accepted and acknowledged. But the question remains when is a nation ready to make maximum use of it? One or two hours a day is a wasteful use of such an expensive tool as television. School broadcasting by day, adult education and rural broadcasts in the late afternoon and early evening - something of this order and nature would be a reasonable use to expect of a service newly installed in a developing country.

Television has never yet been used to its full capacity in support of development. The cost may be prohibitive. But what if the full power and vividness of television teaching were to be used to help the schools develop a country's new educational pattern? What if the full persuasive and instructional power of television were to be used in support of community development and the modernization of farming? Where would the break-even point come? Where would the saving in rate of change catch up with the increased cost?

Television has an insatiable appetite for programmes. No country wants to see on its screens only imported programmes or merely the faces of one or two of its own citizens as they read the news or speak in panel discussions. It wants to see and examine itself, in all its infinite variety. It can do this on film. Television transmits film. Television loves film. It devours it. Film will be the basic raw material of any developing country's newly established television service.

We must now examine the rôle, and the nature of film in television.

FILM AND TELEVISION

A hallmark of development, television is pre-eminently a product of economic progress and technological achievement. In the advanced countries it has now become the medium of mass communication. Politicians plead for time on it. A whole new generation has been reared on it. And what is it, quite literally, so far as the viewer, the audience is concerned?

There was a time when homes did not have windows. Indeed, in many developing countries this is still the case. People who live in huts, caves, tents, have no window on the world outside, other than the entrance to their shelter from its dangers. Now, within a single generation, the home in the more developed countries has acquired a new window of incredible magic power - the television set. What once seemed one of the most expensive luxuries has become, in what is historically a twinkling of an eye, one of the basic necessities of life. The television antenna mounted above even the poorest slum-dweller's shack in the economically advanced country is a true symbol of our times. There is significance in the fact that during riots in the United States one of the first targets of looters is the colour television set in the store window. What the book was to a tiny majority in earlier ages, the television set has now come to be for all the world. As Buckminster Fuller has remarked, the present is the first generation to be reared by three parents. And all future generations will be reared by these three parents. The Director-General of Unesco, René Maheu, recently surmised that this may be one of the real reasons for the generation gap. We now have a discontinuity in human history. For the first time there is a generation that knows more than its parents, and television is at least partly responsible for this state of affairs.

What then of film in television, film on television? Is television just a convenient electronic method of transmitting already made and traditionally conceived motion pictures to millions of viewers in one single transmission of a single copy, doing away with the whole cumbersome and expensive business of the audience's having to gather together in large halls or open spaces, to watch the pictures projected on large screens by cumbersome mechanical-optical process? Or does television demand a new type of film-making, a revaluation of the motion picture within its own terms of pictorial reference?

There is indeed an essential difference. A film shown on television must achieve a much closer personal identification with its mass audience, all watching as separate individuals. It is not a collective experience. It is much more a personal two-way mirror.

The Indian film-maker Satyajit Ray tells a charming story of being taken by his mother, at the age of seven, to visit Tagore. The great Indian artist-philosopher wrote in the small boy's autograph book something he said he would not understand then, but would when he grew up: "I have travelled all round the world to see the rivers and the mountains, and I have spent a lot of money. I have gone to great lengths, I have seen everything, but I forgot to see just outside my house a dewdrop on a little blade of grass, a dewdrop which reflects in its convexity the whole universe around you."

Ray goes on to remark that in order to express the larger thing it is necessary to perceive and be aware of the essential thing in a very small detail. This quality of perception is traditional in Indian art, in Rajput miniatures, in Ajanta, Ellora; it is also traditional in the classics, in Kalidasa, Sakuntala; in folk-poetry, in folk-singing.

And it is the essence of television.

Television is in many ways a synthesis of film and radio. It is a moving picture, like film; it is transmitted through the air, like radio. We have talked a great deal about film as such, but in order to appreciate its application to television we should perhaps go back to take a look at radio and its contribution both to documentary and development.

A seminar on mass media and national family planning held by Unesco in Paris during the fourth week of June 1969 reported that, "while recognizing

the special advantages of television, films and other media, the meeting felt that radio supersedes other mass media in its ability to reach large numbers of people in vast areas of the world. Indeed, for many people in remote parts of developing countries, radio is the only means of communication with the outside world. It should be noted however, that TV presents a great potential in this field and could be used more effectively as facilities are made available".

It is also worth thinking about the developed countries before the coming of television, when even radio was in its infancy. When American commercial and network radio began in 1926, there was little understanding of how the medium could deal with reality in a dramatic way. It was certain that radio could serve important informational functions, and very soon a number of news and news-commentary programmes were on the air. Six years later the publishing empire of the magazines Time and Life launched The March of Time, a radio series which dramatized news events, using actors to play the parts and speak the words of real headline figures. This was not a deliberate and arbitrary choice of style and format, but one forced on the producers because at that time no portable recording equipment was available to permit broadcasters to move to actual locations. The film camera however could move and in 1935 The March of Time became a talking motion picture which, at the height of its achievement, played to audiences of over 20,000,000 once every four weeks throughout the world. This was the first "documentary" film series to play to mass audiences throughout the world.

The March of Time was made for cinema screens in large cinema halls, but by 1951 it was out of business, killed by television. It had failed to adapt to the demands of the small screen. It had continued set in its ways, telling its stories on large canvases on the scale of the pictorial essays in its parent periodicals, narrated by an impersonal and off-screen voice.

Its true successor was another series. A series which also had its origins in radio, but a series which started with television, in television, realizing that it had to rethink completely all pictorial terms of reference before it went into production, let alone on the air. This was See It Now, the motion picture development of the Edward R. Murrow-Fred Friendly radio series Hear It Now. Four years after they first went on the air, Murrow summed it all up: "It was our objective to use camera and microphone as a mirror ... We learned that part of our job is not to get between the story and the camera (and therefore the audience) ... It must be the language of speech, sparing of adjectives, letting the picture and the action and the indigenous sound create the mood, and then maybe a few words, the fewer the better ..."

That sounds familiar, doesn't it? What did Saulat Rahman report of films shown to Indian villagers?

"The audience remembers sequences which are related to its own experiences ... As far as possible, special effects and techniques should be avoided ... The documentary fails as a medium of conveying information which rests heavily, if not entirely, on the commentary ..."

One feels that Saulat Rahman would have been an ideal reporter for See It Now. Certainly Edward R. Murrow was a great communicator.

What this surely does mean for us today is that the model and example for the film made for audiences in developing countries, whether it be brought to them by television or mobile projector, is the personally orientated, personally narrated TV programme - which has evolved as much from radio as it has from cinema - and not the impersonal anonymous-voiced film festival documentary of the past.

Not the entire textbook of how to plant and cultivate high-yielding varieties of paddy in just three reels, but six close-ups of the difference in yield from examples of old and new - followed by a talk by an agronomist, in the colloquial language the audience uses. Not a technical survey with a succession of shots of different methods of irrigation, complete with diagrams and animation, but a trip recounted by a fellow countryman, as he goes out and has a look and listens to how it is done, as described and shown on screen by people we recognize.

In short, what Murrow and Friendly called the little picture; Tagore's microcosm in a dewdrop outside the back door.

NEW SHAPES AND FORMS OF FILM - ELECTRONIC PRODUCTION AND PROJECTION

For three-quarters of this century of its existence, film has hardly changed in the basic essentials of its manufacture, production, and projection. But we are now already well into a revolution. The film-maker of tomorrow will operate as much in electronics as his predecessors have done in optics, if not more.

Electronics is of course electricity, and in a country's development there is no more important point of take-off than the coming of electricity to the rural areas. In time, everywhere, the villagers will get electricity; and then, hard on the heels of the electric light bulb and the electric pump will come a television set. No need then for a mobile optical projector unit to travel thousands of miles to isolated audiences with a single package of films. Throughout the land the same simultaneous transmission and viewing of the films - the national motion picture screen programme - will be possible from one central source. Here is the greatest unifying and nation-building potential yet.

Meantime, even though the majority in the rural areas have yet to see electric light, let alone television, those in the cities have long taken the first for granted and in many countries are beginning to accept the latter as just another aspect of everyday life. It does not have to be merely a source of diversion and entertainment. Closed-circuit television, that is a single system transmitting a person or a programme to several receiving sets tuned to its reception in one general location, is increasingly coming into use in schools and universities. To developing countries facing a grievous shortage of trained teachers and specialists, this can be an invaluable educational tool. One teacher can talk and comment on a film he may wish to show - and be seen and heard doing so on screens in any number of separate classrooms at the same time.

Closed-circuit television, as an organized central facility in universities, colleges, and schools is a new dimension of contemporary visual culture. In many parts of the world it probably represents the greatest growth point in new communications techniques and applications since the invention of the printed word.

Television, however, does not mean that single medium in isolation, but the whole range of audio-visual resources which have previously been too costly or too complicated for most of the educational world to use for themselves. Television recordings, film in many forms, programmed sequences of slides, graphics techniques, learning laboratories using audio tapes or even computers - all these, as well as the new thinking they make possible, collectively constitute what is becoming known as educational technology.

They largely derive from technical innovations originally developed for mass communication, but now they are being increasingly shaped and designed for more intimate use by the hundreds of thousands of small groups of organized learners throughout the world. The viewing screen, in one form or another, is becoming as normal and dependable a source of learning as the book. It may be more expensive but it is also often more flexible, more stimulating and more effective.

All this derives of course from the background of the motion picture on film, which has been with us for a little over seventy years, and television broadcasting which first went on and over the air a quarter of a century ago. In the economically-advanced countries, both these massive media have spent, and spend, fortunes on the creation of product intended mainly for the widest possible audiences they can attract. They have appealed chiefly to the emotions and very little to the intellect. Now film and television screens are being used to convey material, more purposefully conceived, for more precisely defined and limited audiences. The techniques are almost the same, but the motives and the philosophy are not.

All the major groups of professional communicators have had to come to terms with the mass media - politicians, playwrights, advertisers, journalists, actors - but the educator, responsible for shaping and training minds, has felt poorly served by those who deal mainly in the exciting

impact of real events or the suspense created by contrived ones. So he so far has been a little wary of the proclaimed benefits of new communications systems and instead clung too long to the established cornerstones of the spoken and written word. But now, pressured as never before by ever larger numbers of learners, by new curricula, by the whole technological environment and by rising expectations as to the quantity and (more important) the quality of education, he begins to add visual imagery to his resources, and to do so on his own terms.

The teacher senses no affinity with the broadcasters or the film-makers who developed the techniques and whose expertise he needs. He is more concerned with the modes of sensory perception that animate his pupils. He is anxious about the passivity that seems to be induced by viewing and he is seeking to use film and television and other display techniques in ways that involve the active participation of his small audiences.

Photographed by a cinematograph camera and transmitted on television, the motion picture can be recorded optically and projected electronically. It can now also be recorded electronically and projected optically.

The electronic television camera captures and stores its moving picture on tape, videotape. Motion picture processing laboratories have now devised methods of transferring colour videotape to optical film by such processes as Vidtronics, Videoprinting, and Chromabeam.

The use of such methods in place of negative film in film cameras could transform the function of the laboratory, and no so long ago a similar revolution took place in sound methods. At one time laboratories were as much concerned with negative developing and printing the optical sound tracks as they were with picture film, but for the last twenty years production stages to the final sound mix are carried out on magnetic tape, and it is not until this very last step is approved that a laboratory is required to process and print the optical track in its final form. Will this history be repeated in picture recording?

A high-definition colour video-recording system could provide immediate playback from the results of camera operation so that a practically instantaneous "rush print" service would be available. Video editing, mixing and transfer techniques are already developing rapidly, and comparatively large screen presentation can be shown in specially equipped preview threatres. Electronic methods can provide most elegantly many special effects shots that can only be achieved on film by expensive use of time and materials, and convenient "grading" procedures are possible for the correction of colour balance from scene to scene.

With such a system many of the conventional laboratory services might disappear: rush printing, breakdown and storage, preparatory work and negative cutting, with all their problems of delivery and variable demand. The principal function of the laboratory would then be to transfer the final completely mixed and graded videotape to film, and manufacture prints in the various formats required for release.

Tomorrow's motion picture communicator will need to be just as familiar with electronics as he is with optics. He will need to be practised in both film and television. Already there exists an electronic camera no larger than an eight millimetre film camera, coupled to a videotape recorder no larger than and just as portable as the average sound tape recorder with which a great many people are now familiar. Used as the motion picture recorder in the rural areas, this could revolutionize the whole practice and method of film-making as hitherto and traditionally undertaken for the rural audience.

Portable VTR (video tape recording) equipment will make it possible for the people of the isolated rural areas to participate in the production of their own motion pictures about themselves: simple, image-making and image-storing equipment, immediately played back on a screen, subsequently mixed and edited and transferred to film as may be required. This will mean a shared experience in instant visual creation and awareness, a revolutionary step forward to be able to show people immediately, on the playback television screen, what has been "filmed" and solicit their active and conscious collaboration.

Motion picture production in this manner could restore film and audience participation. Film-maker, film user, and audience would become, at last, one collective unity. Thus film can be used not as a preaching medium built around dramatic effects, but rather as a medium for dialogue in which people become directly involved. In other words, they can watch themselves in discussion dealing with issues that are of greatest importance to them, and crystallize their own ideas through the editing and feedback process.

The mobile motion picture unit of the future will be a combination film and videotape van. Equipped to project carefully made and correctly orientated films, with one or several operators trained in the whole electronic motivational informational process, it will be able to go into a village and shoot material during the day for instant playback or screening in an edited form that same evening. For extension workers and trainers in all fields of development this will provide tremendously valuable support material that would otherwise be unobtainable so quickly.

Such direct and actual experience of "film" creation and audience reaction, such combinations of electronics and optics, will be "film-schools" in themselves. Not remote institutions teaching primarily film art in three year courses, but mobile and genuine miniature motion picture universities in which teachers and students, audience and creators, are all so thoroughly and indistinguishably

participants in the entire process that the fatal division between town and country, academic and illiterate, teacher and student, melts completely away. With their roots in the soil of the country, all will learn from each other, and be the better for it. Here indeed is a vision of a great cohesive and collective educational endeavour.

CONCLUSION

In the end it all comes down to the communicator, the individual film-maker, serving the extension officer in the field, the teacher in the school - the film user.

Film-maker, film user: both communicators, seldom one and the same person or organization. But a sense of identity needs to be established. For whom does the one make films, the other show them? The answer must always be the same - same group of people, individual or communal, the population of the country, the human beings who are what is called a "developing country". Some, a very few, are in positions of power and government; others are the managers of newly established industry; the great majority are still on the land, in conditions unchanged for centuries.

Development is a total process which involves government, administrators, public and private enterprises, the nation as a whole, the local community and the individual. Such total involvement in development is impossible without a continuous two-way flow of communication between all levels of authority and knowledge, and across the entire fabric of society. Film is part, but only part, of a total communications process which includes all forms of inter-personal communication. The individual is moved most profoundly by communication from those whom he knows and respects personally: but inter-personal communication which leads to reflection, awareness and learning by the individual becomes more effective when it draws upon and is influenced by the media. Development implies changes in attitudes, outlook, knowledge and practices. This calls for motivation, information and instruction, perhaps through inter-personal communication aided by media-based communication: for example a teacher who uses film. Or the media may be the central source of communication, for example, a motivational film on literacy, which is then translated into individual and community awareness and practice. Development is not only economic; it is also social, cultural, and even moral. Communication addresses itself to the whole man. Film is of the essence to development since it appeals to both the mind and the heart. Film is not only a source of knowledge and reasoned orientation. Film is equally a force of emotional satisfaction and liberation.

Development cannot be contained within a single country; it is of world-wide scope. No country, whether industrialized or not, can develop in isolation. Societies depend on each other for knowledge, resources, and attitudes. But interdependence calls for material and intellectual communication between countries. Trade and investment are the ingredients of the former, travel and media of communication components of the latter. During the decade of the 1960's, the total circulation of newspapers in the world increased by 25%, remained stationary in Africa and South America, but nearly doubled in Asia. The number of news agencies increased from 19 to 24 in Asia and from 5 to 27 in Africa; the number of radio transmitters doubled in South America, Asia and Europe; and the number of receivers increased by 100, 120 and 150% respectively in South America, Africa and Asia. Television marked the big leap, with fourfold increase in Africa and threefold in Asia, Europe and South America. Among African countries only four had television in 1960, but in 1967 twenty-two had television services; in Asia the number rose from twelve to twenty-five in the same period - and all need and use film.

Communication satellites came into regular use, transistorized receivers were distributed world-wide, and low-cost video-recording, cassette tape recorders, 8 millimetre loop films, photo-composition, computer type-setting and cable television were brought into the scene with promises of faster, more flexible, more economic and more effective use of communication technology in the 1970's.

The mass media began to be looked upon as an essential element of production and development processes. In 1962 the General Assembly of the United Nations adopted a resolution recognizing "that the information media have an important part to play in education and economic and social progress generally", and invited governments to include adequate provisions in their economic plans for the development of national information media.

Television caught the imagination of innovators in education, abandoning the narrowly-conceived "audio-visual centre" idea for "systems approaches" involving the full potentialities of all media and techniques. Broadcasting authorities ventured upon new responsibilities in the field of educational programming and the European Broadcasting Union convened no less than three world conferences on the educational rôle of radio and television.

Prompted by improved communication links and awareness of the costs of modern communication production, a system of regular programme exchanges came into being through bodies such as Eurovision and Intervision. International film and television festivals and prizes proliferated, and the 1960's saw the birth of several regional organizations of broadcasters in Africa, Asia and the Arab States, of regional unions of news agencies in Asia and Africa as well as new professional associations.

But although the idea of using communication for development and educational purposes has gained general acceptance, the media have not yet been integrated into overall development programming and given the structures of expansion which would allow them to play their full rôle. While vast sums of money have been spent on ambitious and sometimes unrealistic equipment and plans, the developing countries are still struggling to define the infrastructure of nation-wide communication in terms of individual and development-oriented needs.

From the day a development project is approved in the offices of one or more of a country's central government departments, including its plan of operations, budget and schedule, the entire project begins to depend for its success on information-communication. In order to appreciate this, it is enough to take the plan of any sizeable project, and then ask the following series of questions concerning its objectives and stated methods:

To what group of people is it aimed, where, in what order of time; what specific information and techniques are to be conveyed, by what media, with what special information materials and aids, produced by whom; what will such information-communication cost - and is this latter budgeted for?

At once it should be emphasized that this critical path methodology of communication appraisal is not solely for "mass communication by mass media". It is often enough to ask the above questions, as it were, immediately outside the offices of the few senior civil servants who drew up and are in charge of the project to understand the need for appraisal. Long before mass communication by mass media, a whole series of echelons of civil servants and associated institutions, radiating out from the top offices, must have quite specific, planned information about (and even motivation for) this project - the need for it, its objectives, its channels of implementation, its time-phases, etc. (In many countries so many civil servants may be involved that reaching them is in fact the first "mass communication".)

But civil servants - from down the corridor in the central government, out to provincial government, and on down to district and village level - seldom get this information when new development programmes are launched. Most of these programmes have been launched through civil service networks by issuing little more than a set of stencilled instructions. If there has also been briefing of key officials at different levels in special meetings, that briefing has usually been from and with stencilled papers at most; and those briefed get nothing else to take away to help them carry out their crucial rôles of further briefing at the next level down the administrative ladder. By the time this quite vital information process in even launching a new project has reached all the way to the level of the local extension officer or nutritionist or community development worker, much of the dynamic as well as the differential detail has been lost along the line.

Very many of the weaknesses in project implementation that are ascribed to such problems as "lack of co-ordination between departments", and "poor logistical support", and "inadequate understanding by outposted officials", could quite likely be traced in reality to this complete lack of special, planned civil-service communication. Civil servants are not in reality unimaginative or deliberately slow-moving. If they fail to co-ordinate, for example, it is often because no one ever really informed them as to what to co-ordinate - with whom, where, when, and how - or authorized them to do so.

In development, civil servants are being asked not merely to administer known "static" services, but to undertake special, revolutionary-change functions on an intensive and time-compressed scale. They need special, intensive communication help. In the design of any major development project, it may be necessary to plan a whole first stage in which there is no mass communication to the communities involved until a planned communication programme within the civil service has begun to take effect.

Next in the sequence should come actual training - of the specific cadres of civil servants and specialists who must then train other cadres, who must in turn act as direct agents of development and change in interpersonal communication usually in rural communities; or who must work with the people in technical construction or other material inputs in the project. A very large number of strategic studies have pointed out that failure in this training component has been one of the most serious, and neglected, weaknesses of many development projects to date. This is also a failure in planned support communication.

The aids which development workers under instruction - extension workers, nutritionists, animal health field assistants, forest rangers - take away will be used by them for direct communication in the community. From this a vital point

may be seen to emerge. The total Support Communication Programme of a major project needs to be designed as one programme of interrelated parts. Training instructors need to have, in their training or briefing courses, samples of the materials that will be used for the popular communication stage; and these materials have to be designed in time for the training stage. Support Communication is an exacting, planned discipline - it cannot work on subsequently improvised and vague "publicity" concepts.

The third broad stage and level of communication is to the national community itself. Here, it is important to note what mass communication by mass media can, and on available evidence cannot, be counted upon to achieve. Mass media of communication - film, radio, mass-distributed posters, other simple publications - can indeed vitally help to create a popular sense that change may be possible; or in other words, an awareness of innovation. The mass media are extremely important in stimulating a sense of "involvement". But most of the available research and monitoring evidence to date indicates that to take the development process to the stage of implementation - which is innovation adoption by the people concerned themselves - mass media must be combined with ground-level interpersonal communication by trained and communication-equipped development specialists.

For example, farm broadcasting has so far proven itself as an impetus to innovation adoption where - and only where - the programmes are methodically planned and produced in synchronization with ground-level motivation and instruction of farmers in the specific techniques. Results depend equally upon answers to individual localized questions being supplied by extension workers who are adequately equipped with communication aids and who have been trained how to "build" on the farm radio programmes and feed back into them.

Films, the relatively higher cost of their production notwithstanding, can be immensely powerful in rural development support communication, provided certain key conditions are met. As with all other communication materials, and as we have seen, the films must be devised, directed, and scripted by professionals who understand development and development support communication, and who are sensitive to rural and agricultural life. Films made by thoroughly urbanized personnel are virtually useless for rural audiences as support communication aids.

To sum up, a planned project and community-designed support communication aid such as film becomes effective only when it is used by or in tandem with trained, locally working development specialists. They alone can effectively introduce the films and integrate them into the particular local community development environment.

This paper began with definitions. Film was seen to be in essence a motion picture which telescoped time. It is still something which seems to frighten those engaged in the mass-media and project support communication of a developing country. While everyone knows the press, radio, and now increasingly television, the productions of a film unit do not materialize every day like those of the other media. But, correctly conceived and properly produced as an integrated element in the overall infrastructure of total communication, film can be even more effective. In the words of Jean-Luc Godard, film is "a blackboard between the difficulties of life and the actions to change that life".

And development - what again is that? It is not, as Malcolm Adiseshiah has reminded us, just and merely economic growth. "Development", he has written, "is Man. Man who is the beginning, the end, the objective and finality of all ...".

On 21 July 1969, millions of people in what we call the developed world watched one of their emissaries step on to the moon. Millions more in what we refer to as the developing world were unaware of "this one small step for a man, but one giant leap for mankind". They possess neither the television sets on which it was simultaneously projected, or the capacity even to decipher its report in a newspaper which only a handful can read.

To bridge this seemingly ever-widening gap between the choice between a walkabout on the moon, and lifetime after lifetime of going no further than the village well with a water pitcher on your head, is certainly development.

To bring to all the world the words and reactions, the sights and the sounds, of the first man on the moon is certainly communication.

It was the purpose of this paper to attempt a definition of how one particular form of communication - film - can assist in development. How film can help to narrow the increasingly fearful division now confronting the world. A division in which some are preparing, and are able, to voyage still further out into space, while for more and more the challenge is mere survival.

And out there now in space there are already the tools and vehicles which can bridge this gap: man-made satellites which can beam in an instant a picture, a programme, a film, to an entire continent stationary and waiting below.

By 1975 India will have her own satellite, fixed in her own orbit, high in her own sky. Up to it, from a single ground relay station at Ahmedabad, will be beamed a national television programme. In turn, the satellite will retransmit the picture, with its synchronous sound in three different languages, to half a dozen ground relay stations in different parts of the sub-continent. Specially designed receiving sets will by then have been established in five thousand villages throughout the country.

Half a world away, at Balcarce, in the province of Buenos Aires, Argentina, another land station for satellite communication came into operation the very month Neil Armstrong stepped on to the moon. Below Balcarce's slave satellite, which is at an altitude of more than 30,000 kilometres above

the equator, lies Brazil. By this means, in the South American continent, two great countries and their peoples can share the same visual experience at one and the same time. Soon the coverage will be wider and even intercontinental; and during the next decade it will become increasingly international. The day is not far distant when the Indian farmer sitting in front of a television set in his village teleclub will not only participate in an instructional programme on crop rotation, but will also be able to share in the problems of controlling rainfall on the slopes of the Andes. Thus, mass audiences throughout the world can be linked and motivated by a common awareness and understanding.

It is possible now; and in the storage, retrieval, and projection of moving pictures by electronic means in future, a major and indispensible part will still be played by film.

APPENDIX I

A POSTSCRIPT ON PRODUCTION, ESTABLISHMENT AND COSTING

STAGE ONE

PRE-PRODUCTION

The decision taken to make the film, a writer (and preferably a writer/director) must then be assigned to the subject.

His task is to travel to the various locations, and to question and listen to the particular experts suggested and introduced by the sponsoring authority.

All available literature and documentation on the subject must be made available to him. The production manager must arrange for transportation for the writer/director during his research/survey, and accommodation wherever necessary.

Writer/director then returns and writes firstly a TREATMENT and then, once this has been approved, a SCRIPT.

Production manager then breaks this down into a schedule which compacts its filming in a series of locations as closely consecutive as may be practical, so as to minimize the amount of time and money that the production unit will have to spend when out in the field filming.

The amount of money available for the entire film is the determining factor in scheduling and costing, and a detailed BUDGET of itemized costs has to be prepared within this total figure at this stage.

STAGE TWO

PRODUCTION

On the basis of the agreed script, budget, and schedule, writer/director now takes his unit into the field and shoots the film.

Minimum technical requirement could still be one and the same man as the writer/director who, if he possesses the additional skill, could serve as his own cameraman: an ideal method for very simple, silent film shooting (but only satisfactory if a writer/director/cameraman can be found, who is able to combine all three functions successfully).

For the average film, shot silent with sound added afterwards, writer/director works with cameraman; and each has his own assistant with him in the field.

For synchronous sound filming on location in the field (argued in this paper as the method best suited to audience involvement and participation) sound recordist (with possibly assistant) must be added to the unit.

If some filming is required indoors, for example, in hospitals, schools, health centres, etc., portable lighting kit, and maybe mobile generator must be added to camera and sound equipment. Cameraman, with assistant, can set up lights, driver of camera-truck towing generator can operate the latter.

Location field expenses will have been assessed from schedule and budget, and the director is then responsible for correct expenditure and accounting.

Maximum amount of negative rawstock and sound recording tape will also have been assessed from script and budget.

For a major film involving much travel, synchronous dialogue, and even actors, a deputy production manager should be assigned to work with the director and his assistant in the field, handling all arrangements and monetary transactions.

STAGE THREE

POST-PRODUCTION

Editor, or assistant if director cuts his own film, will have been assigned at an early stage of production. Cutting room made available at headquarters base of operations.

Costs of negative film processing and printing of selected satisfactory "takes" of each scene filmed will have been assessed at pre-production planning stage, also costs of final fully synchronous

"answer" print of completed film from laboratory.

Costs of transportation of exposed film shipments and maybe airfreight to laboratory will have been calculated within overall cost budget also at pre-production stage.

Amount of time the film is in the cutting rooms, amount of time of director involved in editing will also have been calculated and budgeted along with that of cutting room staff. Editor (and assistant) also should be costed and charged as the case may be.

After approval of edited film, with commentary read aloud during projection, final sound "dub" (mix) of commentary after recording, dialogue, music (if any), sound effects, now takes place - all of which must be costed within framework of original budget.

Total budgeted cost of film should include the final quality acceptable combined "show-copy" print of the completed film from the laboratory.

PARTICULAR ITEMS TO NOTE IN BUDGET

PRE-PRODUCTION

Salary of writer/director during research, travel, and writing period. Cost of his transportation and field accommodation. (Calculate on a per diem basis.)

PRODUCTION

Salaries of director, cameraman, assistants, sound crew, as may be necessary. Costs of their transportation and field accommodation. Hire of any equipment which may be required and not already available and owned by the public service film production organization itself. Costs of negative films and sound recording tape, processing transfer. Fees and gratuities possibly payable to personnel and institutions for their assistance in providing facilities.

Consumption of electricity for lighting interiors on such sites (if not mobile-generated).

Telephone calls, telegrams, shipment of exposed film from the field to the laboratory. Ideally, shipments should be made every day or at least once a week in order that a report may reach the director in the field.

POST-PRODUCTION

Period of time editorial and cutting room staff required. Period of time sound recording staff and studio needed to record commentary, sound effects, if not already done by unit in the field, music if required, plus final and complete sound mix ("dub"). Transfer of this ultimate mixed and combined sound track from tape to optical film. Salaries of sound recording technicians for these periods of time.

INSURANCE from the beginning of negative film and "rush" prints in transit; personnel, equipment, and all special risks that the filming might entail with regard to anyone or anything involved in production.

It is to be hoped that the reader is by now convinced that, correctly conceived and integrated into the whole concept of the development plan and process, film can immeasurably assist and accelerate the whole nature of change. But compared to other media, it cannot be denied that it is a relatively expensive tool.

Can it be afforded? How much will it cost? How can it be done? These are fair and reasonable questions.

In order to be truly effective in the development process, it is preferable to make a series of films each related to the other and to the development plan as a whole. But for an integrated programme of this kind, if the country has no public service film organization, a body should be set up under the national development administration.

We have dealt above with the three stages of production and the requirements by way of personnel and costing. Now in determining the appropriate size and scope of the public service film production organization, a communication planning approach should be adopted. This would include:

(a) An assessment of the need for film: is film what is required; will it best perform the task; is the country prepared to bear the cost of producing its own films and to what extent; and how will film integrate with other media in the country?
(b) An assessment of the present capacity of the unit, if one is already established.
(c) A definition of the gap between need and present capability.
(d) Planning to fill the gap, which should include manpower, equipment and material requirements.
(e) Training and implementation.

A correct evaluation can only be made, of course, by a professional who is knowledgeable and experienced in the whole area of contemporary mass communication.

It is therefore most strongly recommended that at this stage a mass communication consultant in film be called in to prepare a comprehensive study. This would incorporate all the points mentioned above, in the particular context of the stage of development reached, the needs, and the aspirations of the country concerned. On the basis of such a report, an informed decision could then be made by the government.

In a country where a commercial film-making operation already exists, the production of a development film or series of films can be contracted by the development authority to a local producer of recognized standing and integrity. Carefully scripted and correctly costed, produced by technicians aware of the particular approach and methods called for in this field, and carefully and creatively

checked at each and every stage of the production by a sponsoring authority aware of what film can or cannot do, this can provide in certain individual instances a satisfactory method of production.

It would obviate the need to establish a production unit as such, the training of technicians, and the expenditure of currency on the purchase of equipment already available in this private, commercial sector.

APPENDIX II

THE TRAINING OF A FILM MAKER

It is the job of the producer to produce the films required by the development authority. In any one year there may be twelve or more, on as many different subjects, depending on the nature and scale of the operation. The research, writing, filming, editing, recording - as well as the various checking and approval stages - may average three to four months in each case. One man, one mind, must stay with each particular project, locked into it, and living with it all the way. This person is commonly called the director, and a film producing unit geared to a government's development needs would need at least four directors to conceive and carry out the separate films under the overall guidance and supervision of a producer. (It is assumed, and it certainly should be the case in this type of informational and motivational film-making, that the director writes his own treatment and script: that he is in fact a writer/director, a film creator, a film-maker.) The producer is engaged in the general - the general film programme as an integral element in the development plan. The director is involved in the particular - the particular subject to which he is assigned in that programme. To this he should be totally committed. Whether it be drainage, birth control, transportation, crop rotation, nutrition, or the instruction of rural youth in development orientation.

This last is indeed a vital subject for our writer/director, our film-maker, in a developing country. But he himself is as often as not very much in need of such instruction and orientation.

It is also important to remember that the orientation and attitudes of the writer/director, film-maker who is himself a product and a creature of development, will reflect all the personal pressures and conflicts of the development process itself.

It is so very easy for a film-maker to get delusions of grandeur for he fashions a world himself and people look at him in awe. Film-makers go everywhere; they are accepted everywhere, by poor people, by rich people. But the motion picture camera they aim at all and sundry does not confer upon them the right to judge the rest of mankind; it is something with which they should try to serve and help everyone in our ever smaller world. It is an instrument with which they can help make it one world. This is the test of film. This is the challenge of development.

A word from that veteran French film-maker, whom many a young film-maker professes to admire, Jean Renoir: "I prefer the idea of digesting the world, observing it and trying to transform one's observation into something personal - but with observation as a starting point."

If a film-maker wishes to contribute and be a part of development - positive and creative development - then it is his task to observe his world, not indulge himself.

Development is a dynamic process, and its films for the remainder of this century will be made by a new generation, one that never knew colonial rule. A generation who find their fathers' talk of the struggle for independence a bore. A generation caught up all over the world in a crisis of identity.

These young people will increasingly learn their trade and their craft, not on the job apprenticed to an expatriate cameraman or director, but in a film school.

What is needed in a film school? What form should it take? Ideally it should consist of an integrated complex of at least two sound stages, with one or another now equipped for the electronics of television. There should be a recording studio, cutting rooms, and laboratory. These self-contained premises should be situated close to the countryside, to enable film-making exercises to be carried on in exterior locations nearby. There should be a library devoted to the cinema and television. There should be an archive of film classics and copies of major and significant television programmes (if such a source of supply does not already exist in the country itself). In developing countries, where there is inevitably a shortage of housing there should be a residential block for the students, their numbers depending on national circumstances and international affiliation. The

students should be enrolled for three year courses on screenplay writing, direction, motion picture photography and electronic camera-work, sound recording and sound engineering, photographic film and electronic tape editing; and, if the school is in a country with a developed, or developing commercial film industry, film acting as well. Each of these faculties should be headed up by its own professor or instructor, professional experts in their respective fields, either on permanent staff or short-term contract. There should be frequent visits, lectures, and demonstrations by working practitioners in these respective crafts of film-making from the outside and practical world of professional film and television.

Students should be selected on the basis of a country-wide competition, consisting of a written test held in the country's main cities. (Only in the already developed countries could applicants be expected to submit an example of their own independently made apprentice films.) Interviews would follow. Scholarships could be awarded on the basis of merit and the economic circumstances of the student. Government grants would have to underwrite the school, international assistance from organizations like Unesco could be forthcoming, and if a commercial film industry already exists in the country concerned, it too should contribute in the form of a levy on its own receipts.

Students should not specialize too much. A student wishing to specialize in editing, for example, should also take orientation courses in direction, motion picture photography, and sound recording. In their first year, students should carry out simple film-making exercises with simple synchronous sound. In their second year, they would go on to make short films with dialogue. In their third and final year they would make ten to fifteen minute diploma films complete in all respects. In this final stage the students should form their own production crews. As a result, the entire creative work of direction, photography, editing, sound recording and re-recording would be done by themselves. And then off they would go into an environment and an industry which must be geared to receive them - and give them employment.

But from the point of view of the developing countries, it is not enough that their young representatives gain admittance to such schools, study, make their apprentice films, and even graduate with honours. They might know how many frames there are to Eisenstein's re-enactment of the massacre on the steps of Odessa, they may know all about Jean-Luc Godard and other fashionable film-makers of the moment, but do they know how to make a film about rural sanitation and, more important, will they care to?

During his period at the film school, the apprentice film-maker will be exposed to a plethora of films, almost without exception made by city-based people for urban audiences, developed and relatively sophisticated, and for whom short-cuts in technique are now standard and perfectly acceptable. He will be shown examples of the latest and the most modish. Works which depend more on technique than on content; cutting that is frantic and almost subliminal. At this particular moment he could be told, and shown, that the use of a zoom lens as a single long-focus telephoto unit does away with the "old-fashioned" need to make first a master shot, then a medium shot, then a series of close-ups. Other voices would whisper to him that the writing of a script is inhibiting, that spontaneous and improvised filming is all the thing now. He will of course be given a basic grounding in the grammar of film, but how many of his teachers will tell him that technique which calls attention to itself is bad technique? How many even know that for the audiences awaiting him back in his own country the most simple and straightforward style - even elementary - is essential? His real audience has not had the privilege of a three year course of motion picture art and history. In many cases they haven't even yet got a cinema within miles of the dirt road outside their village. Is our young student told that his task, his challenge, is not to make films to impress his fellow film-makers, centred on himself and his own subjective reactions, but to inform, instruct, and motivate the illiterate millions of the country which has given him this opportunity, and that this is what he should be learning to do?

Between the study of film as an art in its own right and its purely instrumental use as an audio-visual aid there now exists a whole range of other uses including film as cultural product, film as stimulus, and film as evidence. While the study and application of film as stimulus is of particular use and significance to developing countries, it is largely true to say that film schools have hitherto concentrated much more on film as art, as a medium of self-expression rather than as a tool for teaching, instruction, and community development. Like all people, and all institutions in the developed world, film schools must develop closer links with the needs and aspirations of the developing countries, otherwise our one world will become more and more fragmented, both materially and intellectually.

While every new technique, style, and method which might be effectively employed to tell a film story and give it urgency and force needs to be encouraged, there must be a reconciliation between the claims of film as art and the demands of film as function.

A very important part of the producer's task is to resolve this conflict which can frequently arise between his director and his sponsor. The sponsor wants a film for a purpose, a function. The young director, more often than not, regards his assignment as an opportunity to make a film for its own sake. The measure of a producer's talent is his ability to harmonize, and reconcile, these two sometimes antagonistic points of view

and out of their synthesis produce a work which is both artistic and functional.

We don't expect our film aesthete to become an expert on soil erosion. We don't demand that our agronomist become a talented film-maker. We call for the creation of a new breed (or a return to a very old one). A film-maker who has so mastered technique that he has refined his own till he has reached an essential simplicity. An interpreter who subordinates himself to the facts.

The simple and straightforward recording of fact is said to be the province of the newsreel. In a manifesto, back in 1919, a Russian maintained that this was opportunity and stimulus, and need be far from uncreative.

"The lens of the camera has the power of the moving eye. It can and does go everywhere and into everything. It climbs the side of a building and goes in through the window; it travels over factories, along steel girders, across the road, in and out of trains, up a chimney stack, through a park ... into the houses of the rich and poor; it stands in the street, whilst cars, trams, buses, carts flash by it on all sides ... it follows this person down that alley and meets that one round the corner ..."

This Kino-Eye technique of Dziga Vertov made use of all the particular resources of the cinema; of slow-motion, rapid-motion, reversed movement, composite and still photography, one turn - one picture, divided screen, microscopic lens ... more than fifty years ago. It involved the camera itself in the action. It preceded our now contemporary and universal acceptance of the ever-present camera as recording instrument by half a century. Aptly titled indeed was Vertov's most famous film, The Man with a Movie Camera.

Twelve years later, the Dutchman Joris Ivens went on to create a further symphony out of fact. In New Earth, from the prosaic subject of the reclamation of land from the waters of the Zuiderzee, he made a poem. After a few more films in his native land, he went east, and settled in Vertov's country. There, in the Soviet Union, he developed not only a new sociological outlook but also a more functional and less formalistic technique. This served him well in such films as The Spanish Earth (the civil war in Spain), The 400,000,000 (the war in China), and Power and the Land (the electrification of an American farm). But his most interesting film, albeit flawed, is possibly an attempt at a composite film of the peoples, and the developing countries, of Eastern Europe after the chaos and destruction of the Second World War. The First Years was filmed in Czechoslovakia, Poland, Yugoslavia, and Bulgaria; and the lesson in this brief digression into the past of left-wing factual filmmaking is the state of affairs in Bulgaria today.

Before World War Two, Bulgaria produced only a few newsreels and shorts, and a very occasional feature. Today the Documentary Studio alone, producing over seventy films a year (as well as a weekly newsreel) employs thirty scriptwriters, eighteen directors, and twenty-one cameramen.

Note well that proportion and range of technicians. There are more scriptwriters than there are directors or cameramen. The man with a movie camera is no longer sufficient as such, however much he might personally enjoy expressing himself with it. What is required in the developing world today are informational and instructional films thoroughly researched and most carefully written before those men with movie cameras go abroad in the land.

APPENDIX III

A GLOSSARY OF FILM TERMINOLOGY

(Based on the fundamental process and technique of film analysed and described in Chapter Three)

Viewpoints are generally defined and described as long shot, mid shot and close-up.

A long shot embraces the full field of a large area, whether it be the planet earth as photographed from an orbiting spacecraft, a field sown with crops, or a family seated around a meal on the floor of their hut. (Abbreviated in scripting to LS.)

A close-up is a detail which fills the screen, whether it be the head and shoulders of an astronaut, an ear of corn growing in the field, or the bowl of rice from which the family is eating. (Abbreviated in scripting to CU.)

A mid shot falls somewhere in between, and for a person the figure will be framed from the waist up. (Abbreviated in scripting to MS.)

In formal film-making the technique is to make first a long shot of the entire action, then a mid shot of its principals, and then separate close-ups of its details.

For these standard changes of viewpoint and perspective, lenses of differing focal length are traditionally used in each case. By mechanical adjustment of the optical arrangement of its assembly, a ZOOM lens incorporates all the different widths of angles of the full range of separate lenses. By adjusting its focal length while the camera is running the image can be made to ZOOM into or out from a close-up detail within the full frame.

To move the camera laterally across the scene of action is to PAN the camera.

To TRACK the camera is to move it on wheels towards, or away from something or someone within the frame, or sideways with or across the action.

APPENDIX IV

SHOT-LISTED AND TIMED OUTLINE SCRIPT OF A DEVELOPMENT FILM

A film on how, for example, to irrigate land cheaply and in terms of self-help should start with what is instantly recognizable and of the essence of the story - the dried up barren land itself. And so therefore this does, with a close-up of earth in which nothing is growing. Then, step by step, shot by shot, scene by scene, segment by segment of captured, mobile, and organized time the film proceeds.

Surface of dry land.
PAN to
LS fields and farmland.
There is little growing,
the surface is dry and dusty.
A farmer is approaching.

(15 seconds)

MS The farmer - Ganu -
walking through the
dry field

(13 seconds)

CU Feet of Ganu walking over
hard, dry soil.

(8 seconds)

CU Face of Ganu, walking
morose, dissatisfied.

(8 seconds)

CU Water in nearby stream.
PAN up to
LS Ganu approaching.

(12 seconds)

MS Ganu sitting down on the
bank of the stream.

(8 seconds)

CU Feet of Ganu dipped in the water.

(6 seconds)

CU Ganu, depressed.

A voice is now heard:

"Hellow there. Cheer up
All is not lost yet
you know."

Ganu looks around, puzzled.

"Don't you know me.
I'm your friend.
I can help you.
Here I am,
right at your feet."

He looks down.

(10 seconds)

CU Water, swirling round Ganu's feet.

(6 seconds)

"I'm water
I know you're
worried. Let me help you."

MS The face of Ganu is seen reflected in the water, as he peers in to see where the voice is coming from.

(7 seconds)

"Not enough water to
irrigate your fields?
Actually there is if
only you'd know how
to make it go round."

CU Ganu's face, reflected in the water

"So many of your farmer
friends - your uncle
for instance - have put
me to excellent use.
Why not go to them and
find out?"

COME ON ... GET UP ...

The surface of the water is abruptly disturbed, and the reflected face of Ganu disappears.

(11 seconds)

CU Water in stream at KAMTHADI village
PAN up LS Ganu and uncle walking up to an earth dam built across the stream.

(15 seconds)

MS Ganu and his uncle stop and look at the earth dam.

(12 seconds)

CU Ganu.

(8 seconds)

We now hear the voice of the uncle:
"By building this earth dam across the stream, we are able to divert water from it and into our fields."

LS The earth dam.
PAN along it and ZOOM into the diversion channel at the end.

(15 seconds)

CU Water in side diversion channel of earth dam.
PAN up to LS as it flows into the nearby fields.

(10 seconds)

"We are planting the new high-yielding variety of seeds here, and as they need more fertilizer, so in turn they have to have more water."

CU Hybrid corn and Hybrid maize grown and irrigated in the fields.

(9 seconds)

"But this is of course only seasonal. It is only good for as long as the water lasts - during the rainy season of June to October."

CU Ganu looking at the earth dam and listening.

(9 seconds)

"If you want to see an improvement on this system, you'd better go to KIKWI."

CU Water flowing out of side channel at the end of the stone dam at KIKWI.
Zoom back to LS stone and concrete dam across the stream at KIKWI.

(17 seconds)

LS The stone dam and the stream at KIKWI.

Ganu is walking towards the bank with a villager in the distance. Behind him is an animal-drawn cart which could have brought him here.

(14 seconds)

The voice is now heard of the KIKWI VILLAGER:
"Your uncle was right. This is certainly an improvement.
We built this stone and concrete dam across the

stream with the help of
the government, from whom
we got a loan."

MLS PAN water into the
adjacent fields.

(10 seconds)

"With this system we are
able to irrigate fifty
to a hundred acres of
farmland."

MCU Water in irrigation ditch
in field.

(8 seconds)

"But of course, this is
still only a seasonal
system."

CU Ganu
Impressed, but not yet
convinced.

He nods.

(7 seconds)

"What you are looking
for is something that
lasts all the year
round."

CU Feet of bullocks plodding
forward. ZOOM slowly
back to MLS bullocks
drawing water up from
well in bucket at VELHU
village.

(15 seconds)

MS From below, and inside the
well, the bucket being
raised.

(9 seconds)

CU Water tipping out of
bucket into trough
beside well.

(6 seconds)

CUs Water racing down
the gully towards
the fields.

(18 seconds)

The voice of a VELHU VILLAGER is now heard:
"From the well we do get
water all the year round."

CU Ganu,
still unimpressed.

(9 seconds)

"Oh! I know you know
all about this
traditional method of
getting water out of
a well."

MS Back to camera, Ganu and
the VELHU villager are
seen walking away from
the well towards the
village in the background.

(12 seconds)

"We don't have to use animals
any more."
"Come and see what we've
done with our other well,
over here."

LS VELHU village and surrounding countryside.

(8 seconds)

CU Electric power-line against the sky.
PAN down to the second well, and the two men approaching it in the background.

(12 seconds)

CU Water gushing out of the pipe at the end of the electrically driven pump at this second VELHU well.

(8 seconds)

"Now we use electricity
This pump is electrically operated to lift water to irrigate our fields.
And if there is no electricity, an oil engine can be used.
With this a man can be his own master. Alone, he can irrigate when he pleases."

CU Water running into another irrigation ditch.
PAN to LS general cultivated area and water flowing in through irrigation channels.

(11 seconds)

"Such a well can irrigate some three to four acres all theyear round.
The land is constantly therefore in fruition."

CUs Of the different types of cash crops.

(15 seconds)

"You see, after our main crop we grow tomato, peas, sugar cane."

LS Main street in VELHU village.
PAN to exterior village shop.
Villagers buying consumer goods in the Velhu village shop.

(15 seconds)

"There are cash crops and that means money."

CU Water poured into a cup.
ZOOM back to reveal it to be in the hand of Ganu as he and the villager sit under a tree on the outskirts of VELHU village.
The villager is seated with his back to the camera.

(12 seconds)

"Yes, I know you still have a problem.
Your land is on a higher plane - a higher level - than the source of your water. You'd better visit HIWARE and see how they've solved that problem there."

CU Ganu.
Deciding to go, he drinks the water and puts the cup down.

(10 seconds)

CU Surface of water.
ZOOM back to
LS the deep well at HIWARE.
In the distance, Ganu and a member of the Hiware Farmers' Co-operative are approaching a group of farmers working beside the well.

(17 seconds)

The voice of a HIWARE villager is now heard:
"Just like you we have a river flowing by our fields at a lower level, and this is what we did. We dug this well by the side of the river ourselves. There are twenty-eight of us cultivators here in Hiware and we each contributed a hundred rupees towards the purchase of a pump and motor."

MS Farmers in the group talking together.

(11 seconds)

CUs Other farmers in the group by the well at HIWARE.

(12 seconds)

"We formed a co-operative lift irrigation society, through which we then borrowed the balance of the money needed to complete this system. We find it quite cheap. We can irrigate all the year round."

CUs Water seen to be pumped out of the well dug near the river at HIWARE, and running into the fields.

(12 seconds)

CU Surface of water.
ZOOM back to reveal large percolation tank.

(13 seconds)

"And if water comes to your door, this is what government can do. In a natural catchment area, make a Percolation Tank. These tanks catch rain water. The water seeps down through the soil and raises the level of

LS Percolation tank.
PAN over surface.

(15 seconds)

the subsoil water - which of course then makes it easier for us to lift water from our wells."

CUs Various close-shots of water running through different irrigation systems into fields.

(12 seconds)

CU Ganu looking at the fields, and pondering. ZOOM slowly back to LS of him standing alone in the fields.

(13 seconds)

"With irrigation you don't have to wait for rain to sow. With irrigation the healthy growth of your crop is assured. With irrigation you can double crop. Then you can afford to buy pesticides and grow still more again."

LS Fields and countryside. Ganu a tiny figure, all alone in the distance. PAN across landscape.

(14 seconds)

"This is what we have been doing, in our different ways, to improve irrigation. With you, the problem may be different - but there is an answer. Go and talk it over with your village headman."

LS Ganu walking towards camera over his own dry fields.

(10 seconds)

MCS Ganu pauses by the bank of the nearby stream once again.

(11 seconds)

MCU Ganu.
He has walked a long way.
He is hot. He is tired.

(8 seconds)

MS Ganu gets down into the water of the stream and starts to wash himself.

(9 seconds)

MCU Ganu's face, and water streaming over it as he washes.

(7 seconds)

And the voice of Water is now heard again:
"Come along - don't waste time.
I can do a great deal more for
you than just wash the dirt off
your face."

CU Ganu - again amazed to
hear the voice of the water
streaming over his face.
(7 seconds)

"Hurry up we've got work to do -
TOGETHER."

MS Ganu scrambles quickly
out of the stream, and
out of frame. Camera stays
on the surface of the water.
(11 seconds)

Quick close-ups of water,
flowing in different
directions. Quick, active,
busy.
(20 seconds)

With sixty moving pictures (each a segment of actual time) combined and in association on the screen for a total running time of ten minutes, we have taken our audience on a tour of more than fifty miles.

The actual time needed to take one man to all the locations would be at least three days.

To have taken the film's total audience of a million farmers around the villages to see, and have explained to them, the various methods would take years - and is of course impractical and physically impossible.

But film can do this. For film can telescope space as well as time.

With film, as in any investment, the final yardstick must be cost-effectiveness. Supposing our case history irrigation film cost 35, 000 rupees. It would be seen by more than a million farmers. The cost therefore of showing these farmers how to improve - at little cost to themselves or anyone else - their methods of irrigation and thereby changing their whole way of life, and, moreover, persuading them to do so, works out per head at less than a thirtieth of a single rupee.

Worth it, don't you think?

(Adapted from a film produced by the author with students at the Film Institute of India in the autumn of 1969.)

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